

AVIATION WEEK

A MCGRAW-HILL PUBLICATION

JUNE 28, 1948



Picked for the Panther

(KF-9F)

Grumman picks Goodyear landing-gear equipment to take the terrific shock of landing the Panther on a Navy carrier's crowded flight deck — Goodyear wheels, brakes, tires and tubes, because aircraft manufacturers and airline operators alike know that these tough Goodyear products are engineered for safety.

Goodyear wheels are made of lightweight, super-strength magnesium alloy — Goodyear Single Disc Brakes are time-tested, self-adjusting — Goodyear airplane tires and tubes are extra-rugged, longer-lasting. For the whole story, write: Goodyear, Aviation Products Division, Akron 16, Ohio or Los Angeles 54, Calif.



MORE AIRCRAFT LAND ON GOODYEAR

TIRES



SIMPLE, BUT ENGINEERED Right

The amplifier on Honeywell's Turbo Supercharger is a typical example of how important requirements grow out of sophisticated demands for speed, precision engineering.

Facing attention as a very important detail, Honeywell Creative Engineering designed the traditional forward amplifier case. The transformer and Resistor-Condenser components are hermetically sealed and shielded with metal spray. These and other heat generating areas are mounted in separate enclosures outside the circuit. Result: better heat dissipation, more protection from dust and dirt, less radio interference and greater resistance to bombing and temperature extremes.

Once again, as with the Honeywell electronic Fuel Gauge and Autopilot, it is in instances where Creative Engineering brings benefits that can be recognized—benefits that pay out through greater dependability, lower operating costs, less maintenance. Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Toronto 12, Ontario.



Single in amplifier—used in turbine to sense a change in the fuel system with firing up, idling and automatic shutdown. Has about the same physical assembly as a series of boards.



Compare

THIS NEW MOTOR OPERATED GATE VALVE

ANOTHER OUTSTANDING ACHIEVEMENT OF HYDRO-AIRE, LARGEST PRODUCER OF AIRCRAFT FUEL VALVES

Compare the features. Compare the performance. You'll agree that this new Hydro-Aire Motor Operated Gate Valve, the culmination of over ten years intensive research and development, is far superior to every model.

SHAFTS EASILY REMOVED

Shafts are quickly and easily removed for servicing, without the necessity of disassembling the valve—an important feature you'll find only in the Hydro-Aire Valve.

SUPERIOR, LONGER-LASTING MOTOR

Precision aircraft motor is designed for longer, more efficient life. Brushes are extra long, readily replaceable. Ball bearing construction. Housed and ground wear. Operates at normal voltage of from 18 to 30 volts. Meets requirements of Specification AN-M 23A.

PULPS THESE OTHER IMPORTANT FEATURES

- Approved for use in Army and Navy aircraft.
- Manufactured for dust, humidity or water.
- Explosion proof.
- Meets requirements of ambient temperature range from -60°F to $+140^{\circ}\text{F}$, and may be supplied for temperature ranges up to 320°F .
- Adjustable to extremely high pressures for fuel and engine oil systems.
- Operating times can be customer's specifications.
- Valve can be supplied to open fast, close slow.
- Two-way threaded relief valves may be incorporated if desired.
- Can be supplied with constant amp-rates.
- Provision for indicating light in the pilot's compartment. (Will not operate unless gate advances.)
- Long life.
- Easily serviced.
- Minimum weight.
- Design easily adaptable to special requirements.

Our development engineers will be happy to discuss specific problems with you. For full information write to Hydro-Aire, Inc., 1000 Wilshire Ave., Burbank, Calif.



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ONE OF AMERICA'S FOREMOST MANUFACTURERS OF FUEL, HYDRAULIC AND PNEUMATIC EQUIPMENT
AVIATION WEEK, June 20, 1960



CREATIVE ENGINEERING

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AERONAUTICAL CONTROLS

• CONVAIR-LINER •

A first generation medium-range transport and first commercial airliner to utilize Convaire's jet exhaust principle for added speed and improved engine cooling.



Insulated with
M. & T. Thermal

THERMO-COUSTI

Fiberglass Blankets

No detail has been slighted to make the CONVAIR-LINER the outstanding commercial plane of the day. For that reason we are particularly proud that THOMPSON THERMO-COUSTI Fiberglass Blankets were specified. The weight they save will add greatly to the payload capacity of this great plane.

A revolutionary feature in the Convaire-Liner is the new Thompson laminated Fiberglass seat cushion offering light weight, fire-resistance and comfort. This product will be a sensation to the industry at an early date.

Thompson THERMO-COUSTI Fiberglass Blankets are available prefabricated to specification and to any degree of bulk.



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For information and samples, write:

THE H. I. THOMPSON CO.

Section 21-6, 1732 Cordova St.

Los Angeles 7, Calif.

NEWS DIGEST

DOMESTIC

Squadron of Air Force Boeing B-29 bombers will visit England from July 11 to July 31 at the invitation of the British Air Ministry. The bombers will visit RAF installations and engage in joint USAF/RAF exercises during the tour. Dotted-line Visages at lightning are scheduled to visit the U. S. the summer in an exchange flight.

Douglas Aircraft Corp., El Segundo (Calif.) plant workers have declared their intention to strike unless the company can make satisfactory wage increase proposals. The 5,000 members of the IAM demand a 30 cents an hour pay increase, sick leave, longevity pay and six paid holidays instead of five. The plant is producing Douglas AD-1 Skyraider drop bombers for the Navy. Maritime Committee study of proposals for transoceanic commercial use was called for by Congress in a bill sent to the White House.

Capt. Charles Yeager, first pilot to fly faster than sound, will attempt to reach 1700 mph. in the Bell X-2, Air Force announced.

Lockheed Aircraft Corp. announces orders totaling \$4,000,000 for four Constellation, two each for KLM and Eastern Airlines.

FINANCIAL

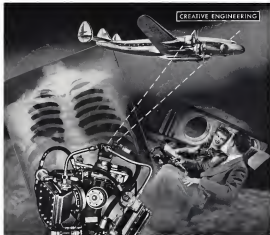
Northrop Aircraft Inc. reports \$104,010 profit after taxes as of Apr. 30 for last three quarters of fiscal year. New contracts, including order for 18 jet Flying Wing bombers, have pushed backlog above \$100,000,000.

Consolidated Vultee Aircraft Corp. is expected to call a stockholders meeting for first week in July. Meeting was to have been held earlier this year, was delayed to give O'Han management chance to shape policies. LaMotte T. O'Han, new Chairman president, probably will give his program at July meeting.

FOREIGN

Aerovias Nacionales Del Sur, Buenos Aires, has interrupted regular service between Lima and other Peruvian cities using converted Cessna Commando transports equipped to handle bulky passengers and cargo.

British Overseas Airways Corp. has begun flying boat service between England and Johannesburg for the first time in history. The 6150-mile route is flown by 15-ton Short Salamis flying boats carrying 14 passengers and is made in five days with four overnight stops.



"LUNGS" for the luxury airliners...

Up in the impossible the big problem is breathing!

Outside is thin, freezing-cold atmosphere. Somehow it must be scooped up, compressed and delivered inside the cabin, richer in oxygen, more uniform in density, breathable.

Now complicate the job by strong space and weight limitations, plus a vast specification for reducing performance, and you've come close what AiResearch engineers faced in creating the cabin "lungs"—"lungs" for luxury airliners.

Today, the majority of new military and commercial aircraft depend on AiResearch cabin pressurization and air conditioning equipment. Today, you ride comfortably at 20,000 feet or higher because AiResearch knows how to convert fresh cabin atmosphere parts to 2,700,000ths of an inch—knows how to make gains quite safely at a dizzy 32,000 f.p.m.

The engineering "know-how"...the research and laboratory facilities...and the manufacturing skills

of AiResearch are now available to you, whenever your field may be.

• AiResearch engineers—designers of rotors operating in excess of 100,000 r.p.m.—create your toughest problems involving high-speed wheels. Specialized experience is also available in designing and manufacturing compact turbines, and compressors; actuators with high-speed rotors, air, gas and fluid heat exchangers; air preheaters, temperature and other automatic controls.

For information, write AiResearch Manufacturing Company, Los Angeles 45, California.



Keep GI Aviation Training, Congress Says

Some cutbacks seen as result of required tie-in with "business or occupation."

A departing Congress left behind in last week a clear mandate to the Veterans Administration to permit lot cross to elicit warzone courses including flight training for use in their present or intended business or occupation.

After a long down-out battle in committee and just one month over a supplemental appropriation for readjustment benefits to veterans, the Senate and House finally settled for an amendment which read:

Education or training for the purpose of teaching a religion to fit or scholastic studies courses in connection with his present or contemplated business or occupation, shall not be considered as occupational or institutional.

■ **Purple Spout Firing:** Effect of the stimulus on VA efferents has been termed "recruiting" the GI flight training program consistently in Washington and in the regions may first be seen in the sitting up of VA neurons, to eliminate very intense GI flight training not to be used in human effort is "clustered or randomized or other" (p. 1, 1988).

Simulations with the expected VA pays of "sport 8 mg" on July 1, covers the letting of new western school contracts for the other types of nation training which are to be used in the veterans' present or intended occupa-

Contracting has already started in some VA regional offices.

★ **Contract Changes**—Principal change in the new contracts is expected to come from the month adopted VA regulation, Part 16.26, which authorizes inclusion of advertising and administrative costs in a school's cost data for determining a flat and reasonable cost for a CI contract.

It is reported however that some individual school operators are already running into difficulties with regional officers who are refusing to allow cost data which includes these factors in spite of the regulations which has been issued.

► **Standard Cost Form—1a conclusion**

with the new contracts, National Auctioneers Association announced that it was preparing, with the cooperation of Ernst and Ernst, nationally known accounting firm, a new set of standard accounting forms for use by auction schools with 125 training contracts.

Approval of the central VA Washington office on these forms has been minimal but has not been ignored. The forms are to be circulated chiefly, and only for the first time provide a standard point of reference between many schools in various sections previously hampered by regional VA office differences in interpretation.

P. Ferguson, *Supporters-to-Deafness*. C. Winland Books (R. Ill.) and Rep. William J. Miller (R., Conn.) were credited with being the two principal advocates of the amendment which used GI flight training. Others cited in its strong supporters included Reps. Karl Strom (R., Neb.), Robert T. Rife (R., N. Y.), Mrs. Edith Nourse Rogers (R., Mass.), Homer Ramey (R., Okla.), Joe East (D., Penn.), Olin Teague (D., Tex.), Tom Pickett (D., Tex.) and Claude Riffeau (R., Mo.).

The amendment is easily passed, had dropped a clause universally inserted

in the Senate, which had called for the vetoes to indicate his purpose in using his vetoing function in his occupation. At the Senate originally passed the amendment it provided that he make such a statement, under oath. This was afterwards stricken, on the 24th. In House-Senate conference which led to the ultimate amendment.

A statement issued, which was reportedly sponsored by VA, would have required the decision to be subject to advice by VA counselors. O'Brien interpreted this as meaning that with the small number of VA counselors available for students who wished to elect flight training, only a small percentage of students would get through this "screening." This was debated.

Yankee soldiers in Washington last week estimated the number of veterans in the Washington housing war at 208,000-250,000. Latest V.A. figures reported on residential war, Nov. 1, 1947 (World Budget Bureau report), showed 118,480 veterans in flight contracts at that time. This did not include homeless or non-flight aviators because not included in the current statistics. Washington observers were not ready to discount how much the total number of veterans in aviation housing would be inflated after Feb. 1, although some estimates were acceptable.

GOING UNDERGROUND FOR A "WHIRL"

► This aircraft turbine wheel is about 100,000 times "shredded"—a test to prove its ability to survive the tremendous centrifugal forces present while it spins at enormous speeds. Made in Sweden.

► The test is conducted in an anechoic chamber from which the air is exhausted. This permits the wheel to spin at higher speeds than required in service... for if the blades had to push air around at such speeds, enormous power would be required to drive the wheel. To detect any slight irregularity that might occur during the run, the test rig has an electronic indicator.

► Because 5000 experimental ports are drilled to determine how much overheat they can endure, the chamber is lined with heat-treated boiler plate—12 inches thick.

► Each newly designed turbine wheel, compressor, and supercharger (supeller) must prove its ruggedness in earlier tests in the Wright Aeronautical research laboratories before being released for production.

► Another example of the painstaking research behind the development of Wright aircraft includes our computer-aided design system.



POWER FOR ALL PROPOSAL

WRIGHT

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4.18 1999年10月1日



WHEEL-SKI COMBINATION FOR C-62

Unstoppable wheel-to landing gear dual sport is Federal Aircraft Models, Minneapolis, Minn., and the Air Master Command, will allow this key cargo plane to sit down and take off safely and efficiently on either concrete or deep snow. Room tests on a C-62 in Alaska have shown good performance and operational results. One will be valuable in event of future military activity in the Polar Regions.

Budgets Pass

USAF and Navy funds for fiscal 1999 almost double last year's sums.

Congress completed action on record-high peacetime Air Force and Naval Aviation budgets for fiscal 1999 before adjournment.

USAF's budget of \$3,911,511,000 (\$1,504,811,000 cash and \$1,407,000,000 contract authorities) is almost double the service's 1998 fiscal year budget of \$2,193,272,000 (\$826,272,000 cash and \$1,367,000,000 contract authorities).

Navy Budget. Naval Aviation's budget of \$1,485,000,000 (\$908,000,000 cash and \$576,000,000 contract authorities) also is almost double the 1998 fiscal year budget of \$749,000,000 (\$391,000,000 cash and \$358,000,000 contract authorities).

Lengthy increases were in funds for aircraft procurement and research and development. Allocations approved for general operations of the Air Force and Naval Aviation commandant, although above zeroing-out levels, were trimmed by Congress below Budget Bureau recommendations.

Research and Development. Although Congress did not specify the USAF appropriation for research and development, sufficient funds were allocated for general expenses for the service to move ahead with its planned \$235,000,000 program. This compares with USAF's 1998 fiscal year allocation of \$265,000,000 for research and development. The \$116,000,000 cut in the 1999 fiscal year Naval Aviation budget for research and devel-

opment compares with \$75,000,000 for the 1998 fiscal year.

USAF Operations. The \$696,811,000 approved for USAF general operations—the allocation includes funds for research and development—is \$311,306,000 below the budget estimate based on a 66-Group program. It is, however, substantially above the \$369,272,000 provided for the same activities for the 1998 fiscal year. House recommendations of \$891,716,000 and the Senate recommendations of \$994,411,000 for general USAF operations were compromised. Navy effect of the Congressional cut will be to reduce USAF's civilian employment.

Naval Operations. The \$553,000,000 provided for Naval Aviation activities, other than aircraft procurement, compares with the \$411,000,000 of 1998 for the same activities for the 1998 fiscal year. It is a decrease of \$142,000,000 from the Budget Bureau's recommendation of \$695,268,000. House proposed \$575,508,000, the Senate \$688,000,000. In addition to the \$10,000,000 authorized for Naval Air Research and Development, the \$76,768,000 will provide \$25,668,000 for aircraft maintenance (Budget Bureau recommended \$27,000,000) and \$51,100,000 for operations and maintenance (Budget recommended \$48,200,000).

The cuts mean that Naval Aviation will not be able to replace older aircraft and expand its fleet of operational aircraft on the scale previously planned.

United Withdrawals

United Air Lines has withdrawn its application to operate helicopter service in the Chicago area following lengthy protestation of opponents.

United Crash

CAB trying to determine if pilots were blinded by smoke, or asphyxiated.

CAB Safety Board investigators now explore how passengers died, but not, after crash of a United Air Lines DC-6 Mustang near ML Canal, Pa.

Blinded by Joseph D. Fluet, CAB Region One safety chief, investigators are attempting to determine whether the United pilots were blinded by smoke or asphyxiated by carbon dioxide from fire extinguishers as they made an emergency landing.

Emergency Descent. The DC-6 was enroute from San Diego to New York and had been cleared to descend from 17,000 ft. over Philadelphia to 11,000 ft. at Allentown, where Southwest wings stalled at 11,000. Pilot's last radio report was made one minute after leaving Philadelphia and started an emergency descent was under way. Fourteen minutes later he landed apparently 30 miles from Philadelphia after striking high terrain twice and disintegrated. Weather was good with broken clouds.

Testimony of eye-witnesses failed to establish the DC-6 was in fire before it struck the power lines. Chemical analysis of the wreckage will be made to determine this fact. United and CAB personnel will also analyze DC-6 cockpit to determine if the flight data to determine visibility conditions from the cockpit.

Previous Grounding. The DC-6 returned to airline service last March 15 after a six-month grounding for engine problems, including engine fire incidents. There was no indication that the planes would be grounded again.

Four years of engine fire have been reported in the DC-6 since March 15. All of these fires were successfully controlled and emergency landings completed with only minor damage.

Early Fuel Flow. Cause of these fires were attributed by CAB to faulty fuel flow indicators, and engine. Automatic propeller governors failed to adjust to the surging and allowed the engine to run away from the propellers, that grounded the DC-6 last July were attributed by CAB to overabundance of fuel during fuel transfer in flight from a safety vent into the engine inlet when landing and pressurization system. Fuel safety vents were misaligned and after engine failure, it lit a fire before CAA certified the aircraft as fit for service again. At that time T. P. Wright, then CAA Administrator, announced the DC-6 in a public letter as "the safest airplane in the world."



AIR FORCE SUPERSONIC PILOTS Capt. Charles E. Yeager, Major G. R. Leach, and Capt. J. J. Fitz-Gerald (left to right) stand in front of the Bell X-1. All three have been faster than the speed of sound, and conducted research flights brought about by NACA experimentation of several years ago.

three have been faster than the speed of sound, and conducted research flights brought about by NACA experimentation of several years ago.

X-1 Flights Proved Research Data

NACA work in 1943-45 called turn on all effects of sonic speed. High altitude is held as key to success.

All of the effects of sonic speed predicted on the basis of NACA research in 1943-45 substantiated in the Hughes flight of the Bell X-1. Despite its low altitude and could not exceed over the strength of the X-1.

The speed attainable by the X-1 is determined only by the altitude it flies above and its altitude is a fact. The rocket motor is a constant thrust source of sonic delivering in 6000 lb. at sea level and at 100,000 ft., for example. The drag of the X-1 is a function of air density which decreases with altitude. Air density at 100,000 ft., for example, is only one twenty-sixth of its level. For this reason, a sea-level speed flight of the X-1 would be an attempt to attain the highest possible altitude before the fuel was exhausted.

Air Landing. This is one reason the first plane is released from a B-29 at high altitude, thereby saving more than one half of the available fuel.

Thus the altitude of 30,130,000 ft. the X-1 was shown an altitude of about 60,000 ft. before its fuel was exhausted, and at this altitude the craft has a speed of about 1,080 mph. The maximum Mach number 1.8 under these conditions. At this altitude, the air loads on the structure are small due to the low density and the small size of the airplane.

While the initial supersonic speeds were made in years ago, subsequent flights will test the handling characteristics of the airplane in various maneuvers such as takeoffs and sudden movement of the controls followed by the pilot. Testing the limits of the airplane, one of the objects of the project. Moments in supersonic flight have already been made and data obtained on stability, structural loads and control of the airplane.

TWA Move Hints At New Financing

TWA has taken what may be the first step in engineering new capital funds. A call has been issued for a special shareholders' meeting to be held on Aug. 10, 1998. The meeting is thought to possibly the greatest loss of conversion into common stock of TWA's notes held by Hughes Tool Co. in the event that Howard Hughes is the owner. An estimate in the New York Times says that since 1996, \$1,000,000 shares also will be sought.

Private Basis. At present, Hughes can convert his 140 million shares into common stock at any time up to June 1, 1998, at the average closing price as the New York Stock Exchange five days previous to the day on which exercised. The lower the market price, the more shares Hughes can acquire. The floor price is \$1.51 per share which 2,000,000 shares would have been exchanged for the principal of the notes.

The new proposition calls for immediate conversion of \$10 per share. This would mean 1,000,000 shares of stock for the notes. Such a conversion would result in a drastic dilution of the company's existing equity capital. At present, there are only 955,011 shares of common stock outstanding.

Approved Expected. Shareholders and the financial institutions holding other obligations of the company must approve these recommendations. Hughes owns 46 percent of the now outstanding common stock, so no difficulty is anticipated. Upon conversion, Hughes would own about 75 percent.

Main purpose of the proposal is to remove the uncertainty as to the power of conversion by Hughes of his notes. But the requested authorization for new capital stock leaves the debate impression that new financing is a contingency rather than a reality. Hughes Tool Co. is a public company. With the Hughes conversion, total new stock would be less than 2,000,000. Despite that, authorization for new stock, up to 1,000,000 is being sought.



FRENCH HIGH ALTITUDE PHOTO PLANE

First photo of completed X-1000 model from modern form of the biplane which is to be used in aerial survey work for the French Institute of Geography. First 3000-lb. engine-kilowatt power the plane which has a 300 mph top speed.



Sikorsky pilot checks Thompson puts an S-52 on a cart inside the Pentagon Building

Military Gets Close-Up of S-52

Two-place Sikorsky helicopter demonstrates improved performance resulting from 245-hp. Franklin engine.

New experimental version of Sikorsky America's two-place S-52 helicopter, powered with a two-cylinder 245-hp Franklin engine, landed with no apparent effort in one quarter of the shrubby-studded grass court inside the Pentagon Building last week. Shortly thereafter it took off from the concrete area with equal ease.

The first observed demonstration run of the experimental craft which includes steps at Area, Central Base headquarters at Fort Huachuca, Ariz., of the Quindaro, Va. Marine Base, and Washington National Airport, has returned to the Sikorsky plant at Bridgeport, Conn.

► **Superior Performance**—Performance which surpasses considerably that of any other helicopter in its power and weight class is credited to the S-52 with the larger power plant. If other S-52 models have been successfully licensed with a 175-hp Franklin engine (S-52A-100B1B).

The experimental version uses a Franklin XP-425-1 engine licensed to the Air Force. With it the helicopter is credited with a top speed of 121 mph, cruising speed of 104 mph, and rate of climb of 176 ft/min at 58 mph. At 50 mph it has a gross weight of 2130 lb. This weight includes 605 lb. net fuel load.

► **Increased Load**—Increasing useful load to 865 lb., the performance down slightly to 119 mph top speed, 101 mph cruising speed and 1400 ft/min climb. At maximum gross of 2790 lb., which includes a useful load of 1205 lb. the experimental S-52 will cruise at 115 mph, and a 1180 ft/min rate of climb. Gross weight (gross weight) (1495 lb.) the useful load figure increases to high.

Rotor blades are aluminum and are

coated in gold for the life of the aircraft. This is said to improve performance which are required for composite blades Sikorsky has tested the Sikorsky through with better than other. Tests on life expectancy will continue.

► **Pin Range Boost**—Ralph Alex, project engineer, who accompanied Thelma Thompson, pilot, on the tour in the helicopter, says it is planned to increase the endurance of the experimental craft to 3 hr. by substitution of additional fuelage. Present 45-gal fuel capacity is equivalent to 2 hr. 15 min. at cruising speed.

Prospects for commercial production of the S-52, either with the 175-hp or 245-hp engines, depend on your own say so. At the National Aircraft Show in November, 1946, when the prototype S-52 was first exhibited, Sikorsky engineers estimated that the helicopter could be sold commercially for around \$15,000 if they could be made of 300 units.

The same estimate, however, is not likely to enter any quality production program for commercial units which would involve considerable capital risk in tooling, without assurance of some military contracts to help cover that risk.

► **Plus CAA Tests**—It is planned to conduct CAA tests soon to get a commercial license for the 245-hp version. The S-52 was first exhibited already obtained for the 175-hp version.

Improved performance shown by the experimental helicopter is believed by the manufacturer's representatives to make the craft a strong competitor for military liaison and personnel transport use.

In its 1300-lb. gross weight con-

tion, the experimental craft has an absolute ceiling of 20,000 ft., service ceiling of 15,700 ft., and hovering ceiling, without ground effect, of 9500 ft. The craft will hover with ground effect at 12,500 ft., 9200 ft., or ground surface, a defined in addition 95 ft. needed by a helicopter when it hovers close to the ground, caused by the concentration of air pushed down by the rotor blades against the ground surface.

At maximum gross weight (1760 lb.) absolute ceiling is 12,500 ft., service ceiling, 10,000 ft., hovering ceiling, without ground effect, 1000 ft., and hovering ceiling with ground effect (which elevates 1200 ft.) considerable figures for 1946. Its gross weight are 11,600 lb., 10,100 lb., 9800 lb., and 9300 lb.

Revise Munitions Board

Matthew Board has been reorganized and given complete authority as all industrial matters in the National Munitions Establishment.

Executive committee that formerly directed board operations has been replaced by a single staff director, Louis C. Leary, Lt. Col.

Three assistant directors will work under Leary. Maj. Gen. Patrick W. Tinkler, Air Force, director of requirements and facilities; Rear Admiral Bruce P. Now, director of materials and supply; and, Maj. Gen. Sidney P. Spalding, Army, director of procurement and inspection. Thomas J. Blagden remains as board chairman. Under the new scheme the board will be Defense Secretary James V. Forrestal, the board is responsible for coordinating all policy matters and setting the pace of the various industrial units. The board will coordinate production and distribution programs of all three military services.

Rented Acts on Dust

Administrative Rules. W. B. Buntel last week issued written laws prohibiting use of 210 dust from coal-mining plants, following report of the Department of Agriculture to CAA. Rules do not apply to 210 dust or to its use in the dust industry except by the coal sector.

The report from Agriculture came after complaints of disease to asthma and other lung diseases from 210 dust which had drifted. Some crop destroyers must obtain CAA licenses in order to operate at low level heights; the prohibition is expected to be very far-reaching.

Revised rules set out that up to 1000 ft. during dusting flights will limit the height of dust clouds and that the operator must be in the air at all times.

Revised rules set out that up to 1000 ft. during dusting flights will limit the height of dust clouds and that the operator must be in the air at all times.



Meet Barrows

Undersecretary of the Air Force moved from hardware to planes.

Two years ago Arthur S. Barrows entered at the age of 63 as president of the largest metal and steel order business in the country to "take it easy." Now as Undersecretary of the Air Force, Barrows is taking it any way he chooses; the largest metal processing program in peacetime history. Barrows has been a specialist in hardware for 40 years. Last month he finished the transaction task of buying \$1,345,000,000 worth of D-48 aircraft, "hardware" or, at least, conventional—new aircraft.

► **Talks Barrows**—His work in the Post and Army with Barrows of the Army and Army with Barrows with other talks about nothing less than "hardware."

"Here in the Postings everybody talks about hardware," he said. "It's not easy to say to tell how well you are doing in the hardware business. There I picked a poor business or so, for the catalogue the profit and loss statement was showed if I had picked a better one. The job is to pick a better one that will be the best in the world for five or ten years hence. I don't know how you can determine your profit and loss in this business except by who wins the war."

Barrows was born in Geneva, went to school at Oberlin, Ohio, and Yale University from which he graduated in 1905. His early education was to be a military man. Instead he had to pick between job offers from a construction firm in the Philippines and a Chicago hardware company.

He picked hardware and stayed with it for 40 years as a mechanic, storekeeper, buyer and factory operator.

Barrows was a killing unit during these years traveling a salesman through Ohio, setting up his own hardware stores in Washington, Indiana and then in Pennsylvania, N. Y.

► **Went to Pacific Coast**—In 1917 he went with Montgomery Ward as a division manager and later operated his own equipment business in San Francisco. He joined Sears Roebuck in 1918 as merchandise manager and in 1941 set up Sears new retail store in the Pacific Coast. In this job he supervised 70 retail stores and two mail order plants.

He became president of Sears in 1942 and served in that capacity until early 1947. Sears has a reputation that all employees must retire at the age of 60. Because of the war, Barrows was permitted to stay on the job for two extra years.

But he was not ready to retire even at 62 so he took a job with Gais Lenz, a German in chairman of the American series of a private economic control program. This group was supposed to regulate the economy of the British and American occupied zones of Germany.

► **Placed With Industry**—His highly paid job when he left the 18-month assignment, Air Secretary W. Stuart Spang, asked him to leave Germany and take on the Air Force procurement job. Barrows is delighted of industry's ability to become an aircraft procurement expert in six months.

"The army says it takes two years to train a GI and they are trying to make an undersecretary out of me in six months," Barrows said. "What it means is the Postings I didn't know the difference between a wing and a group."

Barrows expects a thick stack of white envelopes between him and a pipe and blot in post into the future, looking what he will "postmaster."

► **Useful With Government**—The trouble with the government is that too many decisions are made at the top by people who don't really know what they will be doing in the world for five or ten years hence. I don't know how you can determine your profit and loss in this business except by who wins the war."

Barrows was born in Geneva, went to school at Oberlin, Ohio, and Yale University from which he graduated in 1905. His early education was to be a military man. Instead he had to pick between job offers from a construction firm in the Philippines and a Chicago hardware company.

He picked hardware and stayed with it for 40 years as a mechanic, storekeeper, buyer and factory operator.

to dispose, their productive facilities to such an extent that an extra two years would be required to replace them.

As the situation now stands, Barrows believes, it will take about two years to build the industry up to a point where it can be really expanded or maintained in a state of readiness for an emergency. Any influx in aircraft procurement before that time merely will induce a new industry crisis, according to Barrows.

► **Rating Capacity**—Barrows points out that considerable money will be spent by the Air Force under its present two contract programs to buy potential production capacity in addition to new planes. This includes tooling and equipment needed for quality production and engineering, substituting by some contractors of major subcontractors to aircraft manufacturers who were successful in design competitions for planes. Barrows points out that subcontracting will boost the plane of planes, but it must be charged up in a necessary cost in maintaining a leased industrial base for air power.

► **Tests Critical Stage**—His brief experience with industry has convinced Barrows that the most important period in the history of a plane type is during test flying of its prototype. He is amazed by the number of "bugs" that inevitably appear in every new plane type and at the methods by which most of them are eliminated during the test program.

Although serving under a Democratic Administration, Barrows is a strong Republican. "What it means is the Postings I didn't know the difference between a wing and a group."

Barrows expects a thick stack of white envelopes between him and a pipe and blot in post into the future, looking what he will "postmaster."

► **Useful With Government**—The trouble with the government is that too many decisions are made at the top by people who don't really know what they will be doing in the world for five or ten years hence. I don't know how you can determine your profit and loss in this business except by who wins the war."

Barrows was born in Geneva, went to school at Oberlin, Ohio, and Yale University from which he graduated in 1905. His early education was to be a military man. Instead he had to pick between job offers from a construction firm in the Philippines and a Chicago hardware company.

He picked hardware and stayed with it for 40 years as a mechanic, storekeeper, buyer and factory operator.

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INDUSTRY OBSERVER

► High cost of new-type military planes is highlighted by recent Air Force estimates on replacement planes to be produced under its modernization program. Boeing's B-54s will cost \$2,200,000 each compared with a low of \$300,000 for B-29 during wartime quantity production. North American's B-47 four jet warbirds, however, cost \$1,000,000 each compared with the same company's B-25 warbird which headed cost of \$240,000. Jet fighters are averaging around \$300,000 although some models are now below a \$200,000 unit cost.

► USAF plans to buy 10 supersonic high-altitude trainers to train pilots in techniques for flying out in supersonic speeds and altitudes from 40,000 to 60,000 ft.

► Bendix Radio Division, Western Electric and Collins Radio are competing for a slice of the joint Air Force-Navy program to convert modern air ground communications to ultra high frequencies. Planned to begin next year, the program carries plans a \$25,000,000 expenditure during the next five years.

► USAF now plans to use modified Boeing B-54s for its long-range weather, photo reconnaissance, and mapping squadrons.

► Pratt & Whitney R-4660 VDT engine is planned for production installation in the Boeing B-50C and is expected to bring the range of the strategic bomber closer to the magical 60,000-mile figure. In compensating the turbochargers with the engine, the engine heavily damaged through the waste gases is captured and fed back into the engine combustion. Fuel consumption is cut by 150-175 gal. per lb., thus increasing range up to 20 percent.

► USAF is planning to create a special long-range thinking force within Gen. George Kenney's Strategic Air Command. Maj. Gen. Frederic H. Smith, Jr., recently told a Senate Appropriations Subcommittee that this thinking force will be equipped with an language bomb group at 150 percent of normal strength and will include a tactical squadron for aerial refueling operations. Smith is in contact with Maj. Gen. E. E. Park, Jr., Air Force Director of Training and Requirements.

► Boeing has retained its tooling on the B-29 and will make additional tooling required for the B-29 modernization program. About 265 of the 2100 B-29s now in storage will be considered to provide spare parts. Air Force still is debating whether to turn over additional B-29s modification to the Glenn L. Martin Co. and Bell Aircraft as attempt to do the work in Air Force depots. Both Martin and Bell made B-29s during the war.

► Reports permit that the Northrop YB-49 night jet Flying Wing bomber successfully completed a 9 hr. duration flight some week prior to its destruction in a crash in California. This is about twice as long as its longest previous record run even sustained climb and, at a cruising speed of 470 mph., would indicate the equivalent of a 1870-mile flight, very close to the 4300-mile range specified for the giant bomber. This range as well as the 9 hr. endurance is attained through the use of only four engines during the ongoing flight.

► Fairchild Engine and Aircraft Co. has entered a bid for the helicopter motors of the Sikorski Aircraft Corp., now undergoing Federal Contract negotiation. Although the net worth of the Sikorski assets is about \$100,000, a substantial portion of that is in its present helicopter manufacturing activity. Fairchild remains undecided about the future of its personal pilot division and has been studying the helicopter field intensely for some months.

► McDonnell Aircraft Corp. has contracted with Pacific Aerospace Corp. to develop maintenance personnel, modification and repair facilities for the XP-57s flight test program at Naval Air Force Base, Gold. This agreement involves the job of handling the first XP-57 during its initial Air Force demonstrations to a separate group under contract.

No Jets for Holland

[McGraw-Hill World News]

AMSTERDAM—The Committee of the Netherlands Institute for the Development of Aviation issued a negative report on the possibility of jet aircraft construction in Holland. The Committee stated that for the present there is no future for any substantial venture in the jet field in Holland.

A pessimistic outlook was also held regarding development of the Dutch aircraft industry in general. Failure, the report declared, had to abandon plans for the serial construction of the P-1 "Puma" because aircraft, due to lack of existing possibilities at the current price.

This is also true in reference to building civil aircraft for KLM, which thus far has opposed government pressure to use priority to the Dutch industry. KLM is fully satisfied with its American planes. Nevertheless negotiations with Fokker are continuing.

Fokker has obtained a definite order to construct a freight plane.

AVIATION CALENDAR

June 17-18—Annual convention, National Aeronautics Association, Hotel Statler, New York City.

June 18-19—National Aeronautics Association, Hotel Statler, New York City.

June 19-20—National Aeronautics Association, Hotel Statler, New York City.

June 20-21—National Aeronautics Association, Hotel Statler, New York City.

June 21-22—National Aeronautics Association, Hotel Statler, New York City.

June 22-23—National Aeronautics Association, Hotel Statler, New York City.

June 23-24—National Aeronautics Association, Hotel Statler, New York City.

June 24-25—National Aeronautics Association, Hotel Statler, New York City.

June 25-26—National Aeronautics Association, Hotel Statler, New York City.

June 26-27—National Aeronautics Association, Hotel Statler, New York City.

June 27-28—National Aeronautics Association, Hotel Statler, New York City.

June 28-29—National Aeronautics Association, Hotel Statler, New York City.

June 29-30—National Aeronautics Association, Hotel Statler, New York City.

June 30—National Aeronautics Association, Hotel Statler, New York City.

Salute to Convair-Liner 240

A notable addition to America's air transport fleet, the Convair-Liner is the world's first pressurized medium range passenger transport... it flies with the Simmonds Pacitor Fuel Contents Gauge.



THE SIMMONDS PACITOR GAUGE (REGISTERED)

As the leader in the field of electronic fuel contents gauging, the Pacitor was a natural selection for the Convair-Liner. The Pacitor Gauge is now standard on more than 15 types of planes built by 15 different manufacturers. It flies in the equipment of 15 different domestic and foreign air lines. It is also specified for as impressive number of advanced-type military air craft.

For additional data write:
Customer Service Department

Simmonds
AEROCOSSORIES, INC.
BONE OFFICE: BARTTOWN, N. Y.

Simmonds
PRODUCTS
INC.

Branch Offices: DAYTON, OHIO • GLENDALE, CALIFORNIA • MONTREAL, CANADA



JAMUP AT BOEING FIELD IN EDS and C-919s awaiting delivery or completion.

Hope Dim for Boeing Settlement

Court rejects Labor Board's effort to force company to bargain. No other quick end to deadlock seen.

Another move by the Federal Government toward its early settlement of the Boeing-Airframe Co. labor dispute has failed, and the strike has well entered its third month.

National Labor Relations Board sought a temporary injunction to compel Boeing to negotiate with the Airframe Mechanics Union and when it was denied by District Judge John C. Brown in Seattle just a few days end to the strike seemed out of the question.

■ Federal Intervention—One possibility for immediate solution remains. However, Federal intervention suggested by the Air Force as the National Defense Establishment. In addition to its already heavy backlog, Boeing had additional orders for B-50s, making it one of the largest military producers when it can again get into production.

Desire of the government's petition for an injunction opened the way for one of two other possibilities for resumption of large-scale production—both not seen.

■ **End-to-Work Deal**—The most easily ruled-out of Judge Brown's decision is expected to be an agreement in the back-to-work movement. Even before the court action, the drive had gained strength, though company will over 180 days. Total hourly employees now placed at 75,000 including 530 retired craftsmen.

Judge Brown based his ruling on the company's contention that the union

lost its status as bargaining agent when it went out on strike without giving the 60-day written notice required by the Taft-Hartley Act. In effect, this leaves no path for Boeing to negotiate with, and perhaps will bring more strikes back to work.

■ **Temporary Closing**—The company position, now threatened by the court, could also give the Transport Union another opening to sign up some long-term workers (American Worker, June 7). The Transport's interest in the dispute was given recognition when the court permitted intervention at the hearing by the Washington's Labor Union, charged by the Transport.

The terms of the hearing ruled with Boeing in changing that the strike is illegal. Attorney for the Washington men and that since Boeing workers are not without union representation, he seems left with only to represent workers without all jurisdiction.

The Washingtons do not claim jurisdiction over all 20,000 hourly employees in jobs formerly held by members of the Airframe Union. But they do claim the right to represent more than 10,000 of them and intend to ask NLRB for confirmation in the bargaining agent of their workers.

In response to the Washington's argument that it has as the law that Boeing president William M. Allen reportedly had been to negotiate with a "possible" union.

At the leaving President Allen stated that the strike had cost the company \$1,000,000 in unabsorbed overhead, maintenance, taxes and other fixed charges. He stated that resumption of negotiations with the Airframe Mechanics would not end the strike, but ending it.

Chance Vought Move

Preliminary production work-on parts for the F4U 5-1 is expected to get under way in Chance Vought's new Dallas, Texas, plant only next month, although full-scale operations will begin in Stratford, Conn., as Dallas will not begin until fall.

The move probably will be finished by April of 1949.

Meanwhile, 2000 housing units for CV workers are under construction near the plant and are scheduled to be ready by the time the major personnel shift begins. It is estimated that CV will now employ 1500 employees from Stratford and have approximately 1400 in the Dallas area.

The plant which was occupied during World War II by North American Aviation, Inc. now is being remodelled for Chance Vought.

Doughs to Build Feeder?

Douglas Aircraft Co. again is exploring the feeder airplane market. A feeder plane design proposal may develop before the end of summer.

Design representatives made a special trip to San Francisco to talk to Douglas Aircraft executives on this idea for an ideal feeder transport. Robert J. Smith, president of Pioneer Air Lines of Texas already has visited Douglas headquarters at Santa Monica, and other feeder possibilities are expected to confer with the manufacturer shortly.

These are some indications that conversations to date have a 25-35 passenger design.

C-W Management Wins

Carnegie-Wright Corp. management has won out over the company stockholders' committee which sought to elect an independent slate of directors (American Worker, May 17, 1948).

Charles W. W. Harrington in Wilmington handled down a ruling asking permanent an election of stockholders with the same annual election of C-W. Opposition leader T. B. Hall, former and he would appeal Harrington's ruling.

Report to the Industry



Newest Transport: Convair-Liner

World's first twin-engine, pressurized airliner to go into service highlights lessons learned about economy, comfort, and safety.

Nearly three years ago, World War II ended. While many postwar plans were proposed, only two new airplanes have gone into airline service.

They do not look remarkably different from prewar planes. They are different, of course—in hundreds of ways they are more reliable, comfortable, economical, and are safer. But many of those ways do not show.

The most recent postwar plane to go into airline operation is the Convair-Liner, produced by Consolidated Valves Aircraft Corp.

Only in general configuration does the Convair-Liner resemble the transport planes of the thirties. Aerodynamic interest has required such plans that a place such as the Convair-Liner could not have been built in the thirties. The following article tells why.

What makes a modern transport?

About 75,000 man-hours of direct labor have gone into each Convair-Liner by the time it leaves the San Diego factory of Consolidated Valves Aircraft Corp. That is not direct labor, but by the time fabrication started, the toughest job—the design and engineering—had ended.

The manufacturer's aim was to put down a plane meeting its needs in possible the requirements of many airlines. This meant an effort to utilize all applicable aeronautical engineering

knowledge accumulated during many years.

As a result, the manufacturer believes no other twin-engine passenger airplane in service today has all the features of the Convair-Liner.

Parts of its two engines are roughly equal in thrust of the four engines of the DC-4. It takes a pressurized cabin at faster than any other twin-engine transport. It has unique servicing and landing features.

■ **How It Begins**—The DC-3 was an old airplane (obsolescent to most) when the war began. Already, airline engineers slowly were working details on what the engineers should be like. They eventually were developed as a group project in the Air Transport Association specifications for a short haul transport. Several manufacturers drew designs of plans to meet the specifications. Some were built, some abandoned.

Consolidated Valves had three specifications to go on, and some ideas of its own. It had a broad general background in engine design, engineering and production. In the old days, Consolidated Aircraft had built the flying boats that were the backbone of the Transcontinental Airway's first services. During the war Convair was the number two producer of airplanes in design (different types).

■ **Prototype**—Convair put all the ideas

into the Model 110. When this plane took its first run on July 9, 1946, it was the first postwar twin-engine transport to fly. That was an experimental airplane, in a loose sense of the word, the prototype of what was then the Model 240 (now the Convair-Liner).

The Convair-Liner design has the best Model 110 in several ways. The differences radiate what was learned from the 110. The Linc is pressurized. It has square windows (better visibility for the passenger) against the 110's round windows. The Linc has straight wings (better flight characteristics, more maneuverability) against the 110's gull wings. Its nacelles are more symmetrical. It has a box car, slightly larger and 50 mph faster.

From the testing and demonstration of the Model 110 grew the finished design and production of the airline transport.

■ **Feature**—The Convair-Liner was designed for a specific way to carry medium-range and short-haul traffic. A tough service to make possible in any field of transportation because of the overhead air loading at stops and the efficiency of streamlining economical overall speed due to frequent stops, overhead is more convenient in air transportation in comparison to surface's higher overhead and operating costs.

■ **Cost**—Air travel's prime benefit,

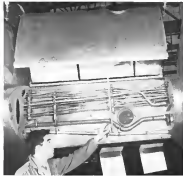


EASE OF ACCESS for servicing and inspection is afforded by swing lift plate and door in Convair-Lear, similar to those

opening in automatic wing. Swing lift plate disengages out of mechanism's way, yet keeps it off floor. Another aid . . .

. . . is the kinked leading edge of the wing between nacelle and fuselage. Though this area has engine cables, hydraulic lines

and engine and outer wing wing. Fasteners along lower edge are jacked out, easily replaced when too worn to hold.



of the plane to "yaw" or swing toward the side of the dead engine or engines. The propeller of the dead engine, unless its blades are feathered (turned their edge forward) will stall out and that set off additional drag on that side and increase the yaw.

When an engine goes out, the pilot immediately adjusts its propeller. But in the case of a berry, powerful plane, the pilot's reaction to engine failure at take-off might be too slow to keep the plane in proper flight. While Convair-Lear's you with one engine responsive is impossible (initially so displacement) increased performance gained by quickly and judiciously feathering the dead propeller is an undeniable safety factor. Thus the use of automatic feathering.

The "berry" of the automatic feathering arrangement is a small pneumatic switch attached to the engine torque meter, which accounts the horsepower being delivered. As power of the engine is increased, the piston moves forward. If power drops to zero, the piston and the throttle link are not being rotated the piston moves back and closes the switch. This automatically depresses the propeller feathering button. There is a failed design of one and one-half screws between power lines and feathering operation, to take care of one screw power lines and feathering.

► **Pit Protection** — There have been relatively few incidents of the landing gear in an airplane in flight. But a study of the cases that have been reported has taught engineers what parts of a plane should be protected. The Convair-Lear has a few outstanding systems that can detect any undesirable condition at these vital parts: engine section, accessory section, nacelle, wheel well, forward and aft cargo compartments, compressor section.

These detectors in the nacelle, accessory and compressor sections, and nacelle detector in the other places, when the pilot and he can release the gear, double time for trouble. For four CO, bottles are located in each side of the fuselage forward of the wing. Each bottle holds 12.6 lb.

A Convair development is an emergency switch which will close a light on the instrument panel if any of the bottles has lost pressure through zero discharge or otherwise.

Throughout the passenger compartment flame-resistant fabrics and materials are used.

► **Ice-Clear** of the greatest hazards in the early days of air transportation seldom attracts attention any more. It is ice on the wings, propellers, windshield, tail section, and on the carburetor. It is still one of the most dangerous conditions in flying—where it occurs, lean is becoming a rare occurrence on trans-

port planes in late years for two reasons: more careful flight planning to avoid icing conditions, better equipment to combat ice.

Clear transport planes have rubber de-icing "boots" along the leading edges of wings and tail surfaces, inflated by air periodically when icing is encountered, these boots break the ice and the airstream comes it away.

That was a good practice in its day. But engineers now know better ways to combat ice. The manual principle is to prevent ice formation. This is achieved by heating the spots where icing might take place. Commercial practice is to heat propellers electrically, and to supply warm air to wing and tail surfaces by means of gasoline-burning heaters generally located in the nacelles.

The Convair-Lear was not set for anti-icing, but eliminates the gasoline heaters. The latest regulations takes furnish all the heat necessary.

They set as heat exchangers from which heated 160 percent bleed air is fed via ducts to wing and tail surfaces for anti-icing. The pilot can control the flow of this heated air to the nacelles which always have the proper amount of heat. The ducts from each engine pass, so the system can work independently even though one engine fails.

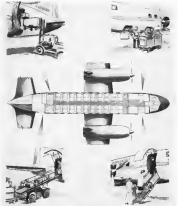
The Lear's propellers are heated electrically, as are those of most other transport planes, but the manner of preventing ice on the pilot's windshield is new and will be found only in the Lear planes in this line, it is a novel development. The glass used in the windshield is of a special type known as "Niro" and manufactured by Pittsburgh Plate Glass Co. A transparent electrical conductive film between glass laminates is heated by passing current through it.

► **Sealed Details** — Those were the tests of Convair's attempt to achieve the ultimate in safety in the Lear are based so by increasing smaller details that make no effort to take advantage of all safety knowledge.

Just when to maximize safety at lowest cost, Convair developed and built the first true integral tank in 1951 and has been improving on it since; emergency windows that open inward so they can't be forced out in flight; fuel lines located under the tail section fuselage (not under the wings) and safe quiet safety valves, checks and switches for the various components and systems.

► **About Comfort** —

During the average life of an airplane passenger seat, an estimated 100,000 people sit down and get up from it. Their impacts are sustained over a five-year period. Convair wanted to give



RAPID LOADING of American Airlines' Convair-Lear; simultaneously, built-in current through left and right wing and

and wings is going in forward left door, passengers through forward right door, and nose cargo access into right rear door.

GUEST LOCK (lower) is a point safety feature of Convair-Lear. When on, it makes doors over fuselage block, makes it

impossible to advance throttle far enough to take off. In forward panel open, as in position, keeps air flowing through





PILOTS' COMPARTMENT of Western Air Lines model of Cessna 441. (Inset photo shows panel assembly in use.)



LEADING EDGE of wing outlined of model is smooth for inspection of wing. Mainline panel is disassembled.



"DYNAMIC CYCLER" is a Corbin device to test Fiberglas seat cushions. One man is to control the unit, and this

of right in itself position. Right and left sections of panel are flight instruments, center section engine instruments.

the leading light curtain. Numerous access doors in rear area are opened, large area being, most work done on flying.

about the cushion to deflect. Seats were up and down in seven inches—75 impacts in a minute.

the latter's passenger greater comfort. The company, however, has called for a one-type seat—specifically, one fitted with Fiberglas (page 22). Obviously Corbin can't wait five years to evaluate the worth of the seat.

How Corbin got around the problem illustrates the care and research that went into designing the Lancer. According to internal papers prepared especially for Division Wars by Charles J. Keizer, research engineer of the company's Engineering Test Laboratories, the internal five-year program last time is held sacred into a week's project.

► **New Device**—To determine what type of seat cushions airlines need for passengers, Keizer says, Corbin rigged up a test machine named "Dynamic Cycler." It uses two dual-passenger Corbin Lancer positions only and simulates long-term use of cushions, Keizer says. Corbin rigged up a test machine named "Dynamic Cycler." It uses two dual-passenger Corbin Lancer positions only and simulates long-term use of cushions, Keizer says. Corbin rigged up a test machine named "Dynamic Cycler." It uses two dual-passenger Corbin Lancer positions only and simulates long-term use of cushions, Keizer says.

With the Dynamic Cycler, Corbin tested seat units in Fiberglas cushions, but other seat-type units as well as some already in general use.

Keizer says, "Test data indicate that Fiberglas seat cushions tend to flatten about half an inch during the first 10,000 cycles (approximately), and little if any during the remainder of the test. One spring-type cushion showed a partial recovery of half an inch reduction during the same test."

"Dynamic Cycler tests to determine what type of seat cushions airlines need for passengers, Keizer says. Corbin rigged up a test machine named "Dynamic Cycler." It uses two dual-passenger Corbin Lancer positions only and simulates long-term use of cushions, Keizer says.

► **Minor Improvements**—Corbins are required for thousands before being placed in the machine, at analysis of 10,000 cycles, and at the end of the 100,000 cycle. To determine backward, Corbin uses another of its own developments, the "Multiple Indicator." This consists of 15 upright wooden rods that rest on the cushion seats, a cylindrical weight of 125 lb. Each rod has a 12-in. scale graduated in 62 in. Scale readings indicate cushion deflection.

Corbin also tested the Fiberglas cushions for durability under vibration. A cushion bearing a 125 lb. load was put on a vibration table and continuously vibrated day and night through a double amplitude of 825 in. at 2560 cycles a minute. No observable breakdown occurred.

Other tests were made in Corbin's "riding comfort laboratory," all evaluating acceptability of its seat-type seats. In addition to fast laboratory work, the company conducted field tests in actual and simulated flights to obtain the results of their experience.

NEW AVIATION PRODUCTS



Powered Screwdriver, Nut-Setter

Assemblers and maintenance men will be interested in new air-powered reconvertible screwdriver and nut setter, Model 7991, announced by Air Equipment Corp., Dayton, Ohio. Tool is rated to be particularly suitable for closing No. 1 to 10 screws and 3/4-in. nuts. Free speed is 3000 rpm, and cranking speed 750 rpm. Unit has adjustable leverage clutch attachment and is furnished with 1-in. hex bit and adapter. Device weighs 22 lb., is 9 1/2 in. long.



High-Speed Soldering Iron

Thermatron, Inc., New Rochelle, N. Y., is offering new soldering iron "Soldicron," weighing 3 oz., and measuring 9 1/2 in. It is formed of stainless steel, interchangeable tips, long-life tip for soldering in reusable places, low current draw, and heating within 20 sec., and cooling upon removal of button. Unit operates on 110v a.c. 50/60 through transformer applied with unit or on 5-volt a.c. or d.c. without transformer.

Pre-Cut Graphite Film

Introduced for pre-lamination of engine and machine parts prior to assembly is the graphite film, 48x325, made by AF Parts Corp., Toledo, Ohio. Chemical treatment of material is stated

to render it and resistant. Claimed is that unit is possible for use and rebuild engines are not to less than two thirds, and that stability lubrication protects vital parts from hot burn at engine until complete oil film is established. Material is also stated to be lubricating base for electrical instruments, engine equipment, and cleaning dust.



Open-End Wrench

Designed for use on pipe, tube, rod, steel cable, and rod fittings, JAC open end nut/wrench is being marketed by G. J. Hendy Co., 27 Main St., San Francisco, Calif. Claimed to easily handle rod fittings, nut/wrench breaks operate in 75 deg. arc, larger sizes with 5 deg. turn. Built to withstand extreme leverage pressure, nut/wrench is stated to be tested to 3000 lb. max. Standard heads, sockets, and accessories are available in various sizes. Adapter converts nut into open end socket using standard sockets.



Small Thermostat

Thermal and safety control, "Night-Mite," for production line installations, is offered by Mechanical Industries Production Co., 217 Ash St., Alton, Ill. Features claimed include triple insulation barrier of compressed foam Fiberglas screening, filter thermal reaction, and higher temperature ratings. Device has sealed construction, and is built out of composite. Listing for unit is 2 amp at 115v a.c.



Fire-Fighter

Whooled, four-type fire extinguisher for airport use is marketed by Pyrene Mfg. Co., 561 Belmont Ave., Newark, N. J. Unit is designed to quickly deliver from 375-400 gal. of foam, and stream last range of 40-55 ft. Unit is equipped with 50-in. steel wheels, 30 ft. of 1/2-in. clearance hose, and 50 ft. of drag rope and reel.

Information Tips

Heat Indicators

Manufacturers and marketing agencies of electronic and non-electronic heat indicators will be interested in new 16-page booklet covering 33 heat indicators now available. Discounted one-minute of rapid color change indicates temperature of various types of engines. Booklet is offered by Electronic Heat Co., Inc., 1000 N. 1st St., Phoenix, Ariz.

For Stress Applications

Over 20-page booklet is available from Aero-Chrome, Inc., 1000 N. 1st St., Phoenix, Ariz. Booklet contains information on heat indicators, including stress indicators, and includes information on heat indicators, including stress indicators, and includes information on heat indicators, including stress indicators.

Tool Changers at Auction

Interested in pipe wrench is offered by Bussell Inc., 1000 N. 1st St., Phoenix, Ariz. Booklet contains information on heat indicators, including stress indicators, and includes information on heat indicators, including stress indicators.

Real Heat

Heat transfer information, including heat transfer information, is offered by Bussell Inc., 1000 N. 1st St., Phoenix, Ariz. Booklet contains information on heat indicators, including stress indicators, and includes information on heat indicators, including stress indicators.

Heat-Resistant

New thermocouple has been published by the National Bureau of Standards, 4300 Reservoir Road, Gaithersburg, Md. The thermocouple is made of a special material and is designed for use in high-temperature environments.



HE'S ALWAYS WITHIN CRUISING RANGE!



The Flying Red Horse!

At over 1000 important U.S. airports—strategically located from Coast to Coast—you'll find Socoy-Vacuum's famous red horse. It's displayed at more airports than the trademark of any other oil company!

This is just one example of the customer private and commercial plane owners have in the high quality of Socoy-Vacuum products. And it's no wonder!

Socoy-Vacuum pioneered many developments which

made today's super aviation fuels possible—the Houday Process, the TDC Process for continuous refining, the seasonal "Major Red" Campaign—which helped revolutionize flying safety and performance!

Today, Socoy-Vacuum scientists are working to perfect new fuels and lubricants for supersonic planes of the future. You can be sure the Flying Red Horse will always be ready with the latest advances in petroleum!

SERVES EVERY BRANCH OF AMERICA'S AIR INDUSTRY!

SOCOY-VACUUM CO. COMPANY, INC. and affiliates, AMERICAN PETROLEUM COMPANY, TEXAS PETROLEUM CORPORATION

AVIATION WORLD NEWS



Panama Letters

No Dull Moments in Latin America

Lapso may become Panama's 'chosen instrument'; U. S. treaty to hit snag; new lines sprout; attacks named.

PANAMA CITY, PANAMA—There is much activity in commercial airline circles here, all centered around plans to move operations from the Atlantic Army airport to the Canal Zone in Tocumen airport, which the Government of Panama built 17 miles from the city.

Tocumen doesn't have all the facilities for adequate operations yet, but its new tower is ready, its runway is one of the largest in the hemisphere and telephones have been installed to hook up with Maj. Gen. Willis H. Hale's Caribbean Air Command headquarters at Albrook, which will keep a weather eye on all air operations far outside of the canal's domain.

The present Canal Zone air terminal at Albrook is only five minutes from the United States while most of the heaviest air traffic stays in the zone.

July 1 Gulf-Mazou, A. Gelbach, Director General of Airlines for Panama, is departing for a July 1 goal for the transfer of all commercial operations from Balboa to Tocumen, but that looks doubtful. TAA has been needing the Government of Panama to get the exclusive management concession for Tocumen, but the government is slow to approve the airport staff. Panama International Airways has been using Tocumen since it started operations a year ago. TACA also operates exclusively from Tocumen and so does Lapso (Lapso Avian de Panama, Sociedad Anonima) Panama Air Lines, Inc.

Boeing, which is not sharing operations through Panama, has a provisional operating permit to fly over this country and is now negotiating a permanent one. TAA, of course, has always had the income taxes, and its local subsidiary, CENSA (Compania Panameña de Aviacion), which flies the Panamanian flag, has been based at Tocumen for six months.

Twenty Needed—Meanwhile, there must be negotiated an air agreement treaty between Panama and the U. S. which will regulate flight, customs and immigration operations here.

This air negotiation treaty is going to hit a snag, a very big one. The Pan-

ama must insist on sovereignty of the air space over the ten-mile strip of the Canal Zone. The U. S. will hold a different treaty, which will require a top political decision before the White House before a compromise can be reached.

The Panamanians are considering that aspect as the alternate for Tocumen. Rio Hato, which used to be the alternate for Albrook, now is closed. USAF troops were withdrawn from there last February after Panama graduated a defense area treaty.

New Airlines—Many new domestic airlines are sprouting up in Central and South American capitals, some of them on subsidies and some soundly financed. Aerolineas Guatemaltecas, S. A., is

doing a kind of office business operating from Mexico to Madrid via Havana, with Canal Zone. Lapso plans to fly from Panama to Rome via the South Atlantic route and the Avianca with Carabobo from the Panamanian Bay. Lapso will be made the chosen instrument of the Panamanians if it proves to be soundly financed and operated. Reports have been published in Panamanian newspapers that the PEG is pushing Lapso's operations in Europe.

Attacks Named—Because of the experience of aviation in Latin America, the State Department is studying on air strikes to the exclusion in the Western Hemisphere. Some of them have already taken up their tasks.

Fedro P. Diaz, the Anconga leather goods store, has just planned down a good number of jets in the bombing of the Los Andes airline which has begun domestic operations in Peru to compete with Peru's Pacifica's money making operations. Ecuador is adding more DC-4s to his service (Compania de Avianca "Front" S. A., Lima) but makes no international flights at all.

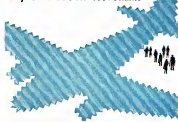
Paraguay Struggle—In Para, Tom Borell has been pitched a stunt by the Paraguayan government, and having been unable to help out, let's turn

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the ball into the lap of the State Department. Two weeks before his inauguration of the Huancho-Lima arm of the Peruvian Government, the Peruvian government issued an order suspending his operating permit. The State Department has lost down the line to the Peruvian as strong treaty and communications between Brazil and President Jose Luis Bustamante brought over airplanes but no favorable action.

If the Peruvians fail to yield, the State Department is going to find a soft in a bare C-47 has twice rejected petitions for U.S. airlines to operate a route from Washington to Huancho because the State Department was passing that chance away for the exclusive use of PIA, which, strangely enough, it seemed rarely by Canadian report.

► **Stretching Block**—Although the Peruvian state is about it publicly, I saw a stretch block in the hands of a Peruvian military air attaché in Washington, in the big stretching block. He reported the financing of PIA, persuaded him to Peruvian to buy stock in it, and got Gen. Huancho Gomez to organize it. Huancho says PIA lost \$800,000 in the first month of operation but claims the red ink now is running into \$25,000 per month. He's afraid Huancho will cut into that figure by flying from Huancho to Huancho to Peruvian. PIA wanted Huancho to guarantee at ten passengers per trip from Huancho to Peruvian. Being a smart operator, Huancho said no.

Also in the building is some reported machinations by PIA and Panagra interests, whose business also will be cut by Huancho.

Peru is in the front seat in some of the countries. For example, Huancho was the able to fly to the DC to Peru until the 15,000 ft high airport at La Paz is lengthened. Its two miles of asphalt runway is a world record for that ship. But it can't be lengthened without Panagra approval because it has an exclusive arrangement right to that airport. Panagra's chief in La Paz says there are no plans to improve the field. Meanwhile, Huancho's southern terminal is to be Garagay, Ecuador, and such route is Peru to open the door to him.

► **Planes for FAMA**—President Juan Domingo Peron of Argentina has an aviation plan for his FAMA airline. He hopes to move the headquarters with it soon, but these plans will fade as less he opens up to other airlines. He's been dilatory in opening route operations which is the system PIA and Huancho can't get into Huancho. Now he's building for the future and the new airport just very far from the present Meron field is to be in good as



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Idesold. He's also building up his military aviation and the plans at Cardella, besides experimenting on jet, jet-synthetic as well as building, repair and transport planes. Most of the planes are being brought over intact from England for assembling there just about \$40,000,000 worth.

►TACA, Espana — Writers in scheduled soon to begin reorganization of the TACA line. There's no economy drive in view, which promises replacement of equipment and expansion. TACA, naturally the richest in Costa Rica, the it would have been out of business there. The government's embargo because TACA's planes and pilots flew for the rebels. Its biggest and most profitable operation now is in Venezuela.

KLM also does well on the Cuban. Almost run, many oil people predicting it become their bail at PAA's take-over here at altitude — Observer

French Air Industry Faces Another Slash

PARIS — SNECMA, French Government's airplane engine firm, ran out of money recently, and the 15,000 workers who got 100's instead of pay checks threatened to strike.

The new René Mayer, French Finance Minister, the chance he's been waiting for to take another deep slash at the automobilized industry budget.

He asked the cabinet to suggest two new laws to the National Assembly. One would give SNECMA a new box with power to fire about one-third of its personnel. The second would extend a grant of \$3 million to the firm to keep it working during reorganization.

►The Paying Boss — The thunders as proposed for SNECMA is part of a long-range government drive to put the whole automobilized industry on a paying basis by closing personnel to the home and strengthening production. Under this plan the government is asked to cut the number of workers in the state aircraft factories to 10,000 from a postwar high of 100,000. This corporate job was left to the government by the Communists who were in charge of the automobilized industry by nearly 2 years after liberation. They tried to all workers' personnel.

The Communists from René Mayer's proposals for SNECMA, according to the Minister of seeking to strip the French aircraft industry of certain firms. Washington. Communist propaganda insisted Mayer planned to shut down the SNECMA factories. Mayer denied this and calmly went on with his basic clearing.

These transformers simplify your -aircraft electric systems



• Above, a typical three-phase to single-phase transformer, available in output capacities ranging from 25 watts to 350 watts, and of 115V or 240 volts.

• Left, a functionally sealed single-phase to three-phase transformer for the operation of gyro indicator units, 400 cc capacity.

• Below, a compactly sealed single-phase to three-phase transformer for the operation of gyro indicator units, 100 cc capacity.



G.E. phase-changing transformers are a lightweight, simplified means of operating your aircraft instruments and accessories. General Electric builds both three-phase to single-phase, and single-phase to three-phase units to meet the needs of your electric systems.

An adapting transformer is frequently the only practical way to power a single-phase aircraft instrument from a three-phase supply, without causing phase unbalance, or resorting to the use of a single-phase winding in the generator.

Again, when a three-phase supply is needed to operate gyro instruments, a G.E. phase-changing unit converts the single-phase output of the inverter to the required three-phase supply.

Write for your copy of new Bulletin GEA-4466, which gives details on the complete line of G.E. transformers for aircraft. Apparatus Department, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

Transformers for Aircraft

Among General Electric aircraft transformers are the following:

- Rectifier for fluorescent lighting
- Voltage transformers for radio beacon
- Voltage transformers for fuel gauges
- Phase-changing transformers
- Three-phase to single-phase transformers
- Voltage step-up "Spangle" voltage transformer

General Electric aircraft transformers are designed to:

- Offer dependable operation at altitudes up to 50,000 feet
- Operate in ambient temperatures from -50°C to 70°C
- Provide constant frequency output in ground mode
- Withstand vibration and shock
- Have weight and size to a minimum

CURRENT NEWS

from

Eclipse-Pioneer

A complete range of

AIRCRAFT INVERTERS

from 6 VA to 2,000 VA

Whether it's a power for a single remote indicating function or for a complete complement of electrical devices, there's an Eclipse-Pioneer® Aircraft Inverter for almost every purpose—an inverter that's available to meet your present requirements. And in addition, for your future needs, other types with outputs as high as 2,000 VA are even now being developed. For complete detailed information on Eclipse-Pioneer inverters, write direct to:

PERCIVAL PAGE

Type	Rated AC Input	400 Cycle Output
1212B	32 or 27.5 V	24 V, single phase, 6 VA
1212A	32 or 27.5 V	24 V, three phase, 18 VA
1212T	27.5 V	24 V, three phase, 225 VA
1612B	37.5 V	48 V, single phase, 500 VA
2000	27.5 V	115 V, single phase, 500 VA 115 V, three phase, 750 VA
1512	37.5 V	115 V, single phase, 1500 VA 115 V, three phase, 2000 VA

Eclipse-Pioneer

SELEBRON, NEW JERSEY

DIVISION OF



AVIATION CORP.

AVIATION WEEK, June 26, 1949

AVIATION SALES & SERVICE



New Taylorcraft 15

Taylorcraft Presents 1949 Line

Three new models, all two-places, are company's bid for market. Low prices, short landings are attractions.

A new 1949 line of three Taylorcraft two-places has been announced by C. G. Taylor, president of Taylorcraft, Inc., Alhambra, Ohio.

The airplanes are basically the same function, light-and-steady, side-by-side aircraft as which Taylor built his reputation as a pioneer airplane designer, and which his new company has been making since it was formed last year.

► **Vagabond Composites**—A sleekline Taylorcraft model, priced at \$1995 factory, is obviously scheduled as a competitor to the only other light plane on the market at that price, the Piper Vagabond. Taylor describes the 67 hp Continental-powered plane as a simple plane, lacking the bells of the other two models.

A delta, 67 hp, two-place is priced at \$2495 factory, while the third model, recently introduced by CAA, is an 85 hp, de-luxe model, priced at \$2995.

► **Attractions**—The 67 hp, airplane will take off at full gross weight of 1250 lb. in 362 ft. and has a landing roll of only 700 ft., the manufacturer reports. Wind and climate conditions for this performance are not given. Price is quoted with a cruising speed of more than 100 mph and a 710 ft./min. rate of climb. The deluxe 85 is pointed in areas intended to suit, however, with two four inch floats. A new, streamlined panel dual controls, new windows and grille, standard full-cowling, fuel tank, exhaust and carburetor and glove

compartments are some of the items listed as part of its equipment.

Price quoted is about the lowest for an 85 hp, two-place on today's market and the Taylorcraft 85 may be expected to attract quite a few buyers on this basis, and on the basis of its good short field landing and takeoff performance.

► **85 hp Model**—The 85 hp, deluxe model apparently is a "dressed up" version of the Vagabond, with yellow and blue color scheme, new panel, new carpeting and upholstery, new windows, and so on. Cruising speed of 95 mph is quoted for it with no other performance figures cited.

Cruising Score

Interesting comparison of cruising speeds on per-hour basis for two-places in actual comparison as per flying weather over a 100 mile course country course is provided in the box here in speed in the Mono-

mal Del Regatta held by the Philadelphia Aviation Country Club at Wings Field, Ardmore Pa. Winners were selected on the basis of both fuel economy and speed.

The speeds in mph.

Type	No. Finishing	Winning	High	Average
Boeing B	1	119.8	163.5	154.6
Boeing C	4	114.7	162	151.2
Boeing D	5	111	154.5	125.5
Stinson Voyager	4	110.1	150.1	135.9
Cessna 141B	7	106	158.2	99.5
TEMCO 800	1	(Disqualified)		114



SIAMSE ESCORTS

Flight and ground views of the unique Siamese Escorts, two planes lashed together into one aircraft. Division Work, June 21, shows a truck configuration which makes a four-place (two engine) airplane out of two single-engine two-place. The

ground view picture Milled Dore, at left, Escorp driver who brought up the idea, at right, showing off his new twist to Clay Service of Southern Aircraft, Salisbury, N. C. The biplane-tailor could say he sees at least one other use.

Personal Plane Totals Show Continued Rise

Further signs of personal aircraft shipments in May over preceding months, involved 772 planes valued at \$2,912,800, Personal Aircraft Council of Aircraft Industry Association reported.

Foreigners accounted for 345 of the planes, the remainder being two and three-place aircraft.

Total for the first five months amounted to 2985 civilian general type planes shipped plus 101 military liaison planes of essentially civilian lightplane type. Total value of the five months shipments amounted to \$11,136,000.

Total number of shipments by company:

Aeromarine-Stinson, 59; Super Chief (85 hp) 6; Cessna 105 hp 12; Cessna 140 (85 hp) 23; Model 7 CCN, 4; Beech-Boeing, 38; Bellanca-Cessna, 5; Cessna-Model 120, 10; Model 140, 84; Model 170, 51; Model 190, 7; Model 195, 9.

Engineering & Research Corp.—Ercoupe, Model R, 15.

Fitchell-F24, 7.

Lancaster-Model 8A (85 hp) 8; Model 9C, (85 hp) 25; Model 8P

Ryan-Navion, 54; Stearns-Voyager, 39; Tachanath-Tachanath, 5; Trench Engineering & Manufacturing Co.—Swift 125, 21.

Exhibition shows Piper leads the manufacturers with 215 planes shipped, as against 140 by Cessna, 91 by Aeromarine, 85 by Stearns, 61 by Lancaster, 58 by Beech and 54 by Ryan, the other leaders.

Navions Get Workout In Recent Flood

Two Ryan Navions in the Portland-Vancouver area have been given a thorough workout recently in emergency flights as a result of the recent Columbia River flood.

Early Reed, manager of British American Industries, Vancouver, Ryan distributor for Oregon and Southern Washington, reports:

"The only means of transportation this past week between Portland and Vancouver is by air. We have been using the Navion for spotting people who must be evacuated from flooded areas, for loading, unloading and for maintaining other emergency services between Portland and Vancouver."

"Varied Uses"—The Navion has been useful in a hundred different ways because of its ability to get in and out of short fields. We are now sporting off of what is approximately a 1,800 ft runway with altitudes of over 50 ft at both ends."

(90 hp) 33; Silver Streak, 2; Piper-Cub Special, 79; Supermarine, 301; Vought, 73; Fowley-Cresser, 5; Republic-Scout, 1.



NAVION AMBULANCE

Airplane studios worked out by Lightfoot and Cherry, Marshall (Yale) Navion studio, makes possible 10 minute emergency of plane to ambulance use. Later shifts into baggage space when back seat is removed.

Unlike most ambulance conversions of biplanes, both back seats are kept intact. By putting a backrest on left side of the back seat, place can be in a four-place, even with one passenger on a stretcher.

Equipped by Saval



★ **SAVAL IS PROUD TO CONTRIBUTE TO THE SAFETY AND DEPENDABILITY OF THIS 300-MILE-PER-HOUR, POST-WAR AIRLINER**

Saval 3000 PSI controls used on this modern transport are the mutual choice of both Consolidated Valves and its airline customers based on past performance of Saval's "Seal-Seal" valves. Fourteen "Seal-Seal" units are incorporated in the Convair-Liner, including Landing gear selector valve, Landing gear service valves, Wing flap selector valves, Main system bypass valve, Passenger door valve, and Cabin pressure emergency shut-off valves. Saval's large staff of fluid engineers are always ready to serve you. Offices are maintained in three geographical areas: western for your convenience—Los Angeles, New York and Wichita.

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Convair-Liner...

the newest twin-engine airliner flies with Curtiss Propellers



- The Convair-Liner now flies with Curtiss Propellers—the type which has proved so successful on the Boeing Stratocruiser, Douglas DC-6's, Lockheed Constellation, and other four-engine aircraft.
- Thus, Curtiss brings to twin-engine airplane propeller features long associated exclusively with four-engine airplanes.
- No other propeller provides all these proven advantages.
- Reverse thrust for smooth, unobstructed landing, effective braking on wet or icy runways, backing or maneuvering without ground assistance, reduced backload tire wear...
- Automatic feathering for elimination of icing, icing, efficiency engine heat...
- Exhaust steel blades for greater durability and reduced propeller weight...
- Selector fixed pitch, dependable feathering, thermal de-icing.



CURTISS ELECTRIC PROPELLERS

PROPELLER DIVISION OF CURTISS-CORP., CALHOUN, N. Y.

Arthur Spauld, assistant to Reed, gets a firsthand description of operations at Porton Air Park in Vancouver.

"The water covers the field all the way up to a small bay which we use generally (June 21) using as our only aircraft. Regular carriers are stationed beyond our. From the very start of the flood disaster—when normal communication between Vancouver and Portland was disrupted, we put out two Mustangs to work on emergency flights.

• **Add to the stranded:** "We transported people who had legitimate reasons between Vancouver and Portland, rather emergency service; delivered messages (all ways were down); landed rescue parties; and in general helped maintain contact between the two sides of the river.

"In one case we landed from the air a young fellow who had been left marooned on a steel platform at the Swift Landing plant in high ground between the river and the stranded community of Vespert. Spotting the boy, we got word to the Coast Guard, who in turn sent a rescue boat to bring him to safety.

"It is interesting to note that 90 percent of the people we've transported by air have never flown before."

New Vet Regulation

A regulation (Part 16.237), recently adopted by the Veterans Administration, applicable to flight and other private schools, permits inclusion of actual advertising expenses in determining fee and economic value for C-2 contracts where advertising costs did exceed 5 percent of gross income from contract execution.

Advertising costs in excess of the 5 percent limitation must have special approval. Such costs are limited to advertising an advertising department by the school, and use of advertising materials in newspapers, magazines, radio, pamphlets and catalogs. Promotional activities such as gifts, prizes and contests are not allowable as advertising expenses. Advertising costs previously had not been allowed.

Continental Shipments

Continental Motor Corp., Madison, Mich., reports shipments of six plane engines were larger in May than any month since May, 1947, presumably due to upturn in personal plane sales. May engine sales exceeded average shipment for the preceding 11 months by 52 percent. June schedule call for a further increase of 15 percent over May aircraft engine shipments. C. J. Reese, Continental president, says

BRIEFING FOR DEALERS & DISTRIBUTORS

HOW TO GET MORE BUSINESS—A sales presentation manual for telephone salesmen, prepared by Eda Corp., Calicut Point, N. Y., emphasizes the transaction but still looks back to that money machine people overlook: "Flying sales" but just as importantly, on any other product, or service. The manual tells how to use salesmen, a host of questions and selling instructions is not sufficient to assure profitable operations. You've got to sell yourself, your operations and above all, flying.

The manual discusses How to Get More Business from Current Students, Current, New Business, Your Base, Clean Up, Post Up, other subjects. A final attention is given to how all personnel and the material, participate actively in sales presentation, and assist in weekly sales meetings to plan merchandising programs.

While much of the material isn't new, the manual still is worth reading by all field line operations except those completely satisfied with their present volume of business.

SLOW FLYER—The Wichita-built Boeing L-15 scout biplane plane now being tested by the Air Force has a slow-flying performance almost "out of this world" according to early reports.

Air Materiel Command says the plane has been stalled out with full flaps and full power at speeds of only 9 to 11 knots, which is nowhere below 15 mph, in certain tests. It is also reported that the plane has been landed at speeds of less than 25 mph, that it will hover at speeds below 40 mph at a constant altitude, and that it will takeoff and clear a 50-ft obstacle in less than 600 ft. Rate of climb is 525 ft./min. at cruise at 95 mph (10 percent power), all with a 125-hp Lycoming engine, and a gross weight of 2000 lb.

The slow thing comes from the scout's full-span fully extended flaps of external aileron type. Spoiler type ailerons, located in front provide the lateral control required at low speeds.

It would be interesting to see how a civilian personal plane would sell that was equipped with the L-15 scout's wing, flap and aileron arrangement. Maybe it is what Prof. Lynn Bellinger says the public is waiting for.

CHANGE CHAIRS CONTROL—Plans to change the simplified wheel control of the seven British four-place Gladiators, Air (Astonia) World, May 10, for a standard stick and rudder setup have been announced by the Gladiators company. The decision was made reluctantly and only after demands from the majority of purchasers for standard controls.

The two prototype planes used a wheel control which was turned for bank, depth or pulled for dive or climb, and swung left or right for rudder control. Despite test pilot demonstration of the possibility of the wheel control, purchasers preferred the conventional system. Gladiators now is engaged in converting control of its first production planes.

NARCO DISTRIBUTORS—National Aeronautical Corp., Wingt Field, Aachen, Pa., has announced appointment of Qualitair, Inc., Minneapolis Airport, Van Nuys, Calif., and Aerial Radio Service Co., Phoenix, Ariz., as new distributors for Narco VHF aircraft radio equipment, including the forthcoming Narco cross-directional VHF range receiver equipment being developed under CAA contract (Aeronautics Week, June 14).

VAN DUSEN EXPORT OFFICE—George Gallop, Van Dusen Aircraft Supplies sales manager, has announced appointment of John S. Lucas, previously with Jacobs Aircraft Engine Co., TACA and Curtiss-Wright Flying Service, as manager of a new Van Dusen export sales office at 31 Melbourn Ave., New York.

BANGOR FIRE REPORT—Investigator of investigating aircraft maintenance activities from these operations is pointed up in an analysis by the National Fire Protection Association of a recent hangar fire at Glasgow (Mont.) Airport. The fire, which occurred May 8, destroyed 17 personal aircraft, the main report hangs (120 by 160 ft.) and the adjoining control tower. Direct property loss is estimated at \$180,000.

The fire began in the hangar deep shop where mechanics were doing the wing of a plane. It spread so rapidly that the personnel barely escaped with their lives. City fire equipment arrived too late. A gasoline-powered pump was at the field, but the operators were not so hand. **ALEXANDER MISURILEY**

Outlook Good for Stock Dividends

Improvement in conditions of manufacturers seen as indication of participation by holders in earnings.

The improving outlook for the aircraft industry is bringing increasing dividends to stockholders.

Many recent noteworthy actions were taken by Grumman Aircraft Engineering Corp. when it declared a 160 percent stock dividend. This in itself creates an additional value, as the equity remains the same. In other words, two new shares of the company have the same value as one possessed by one old share. Stock dividend action, however, is usually a forerunner of increased cash distributions to stockholders.

Exchange Issues—It is known that in New York Stock Exchange firms repeat stock dividends often represent earnings as present which will subsequently permit higher cash payments to stockholders. For this reason, stock dividends are an indication of better things to come for the company taking such action.

Grumman is increasing its outstanding capital stock to 1,600,000 shares from 936,000. Further, through transfers from capital and earned surplus, the new stock is given a par value of \$5 per share, making for a total capital stock valuation of \$5 million.

The par value per share on the old stock was \$1 per share, distributed through accumulation of previous year's earnings. Grumman's earned surplus account as of Dec. 31, 1947, amounted to \$2,011,601.

Capital surplus aggregated \$942,948 as of the same date. The net equity of the new stock is estimated in excess of \$16 per share.

Unusual History—Grumman has an unusual corporate history in respect to earnings and dividends. The company has the distinction of coming a profit in every year of its existence covering a period of 35 years. Further, a dividend has been paid every year. This is a unique record in the aircraft industry.

It is interesting to observe that once a dividend rate has been increased, it has never been cut in any subsequent year. A total of \$1 per share on the old stock was paid during 1947. On this premise, it is logical to assume that cash dividends will exceed this rate during 1948. Thus far, the company has not acted in 1948 stock distributions to stockholders.

Looked to Pay—Lockheed, after declaring dividend payments during 1947, will pay 50 cents per share July 2. The last previous payment was made in June, 1946, when the same distribution was declared. The company's earnings are known to have been very good this far this year. In a large measure, this can be attributed to the considerable write-offs taken in 1947.

Further, as the Consolidated Financials of TWA, Lockheed's sales and profits are located. However, as part of this transaction, Lockheed has purchased TWA's notes accepted in payment of this equipment.

Cash Payments—Curtis-Wright Corp. paid 10 cents per share June 22 on its Class A stock. A total of \$146 per share was paid on this issue during last year. Considerable surplus was reported by shareholders in that the company did not also make a cash distribution to common shareholders at the same time. It is probable, however, that the current management does not wish to reflect any action that may be attributed to a group of minority common shareholders who are pressing for an immediate \$2 per share cash distribution to their class of stock.

Probably for the first time in its history, Curtis-Wright issued a statement of its quarterly results. The company declared a consolidated net profit of \$1,941,908 for the first quarter of 1948.

Wright Aeronautical Corp., which is 97.32 percent owned by Curtis-Wright, contributed net income of \$324,377 during the same period. It is noted that Curtis-Wright's popular division is far more active than the airplane division and presumably is responsible for achieving earnings the parent stockholder.

Future Indications—It is believed that the Curtiss-Wright management obtained current earnings reports as an indication of current profitability to which claims being made by minority stockholders in their struggle for control of the company.

In a recent action in the Delaware Chancery Court the present management was upheld and the election of its slate of directors held valid. This

springing group is now controlling this division in the highest courts.

Boring Dividend—Boring declared and paid a dividend of \$1.00 per share earlier this year. Total payments last year equal to the same amount. With the increasing tempo of activity, there is reason to believe that Boring will make another dividend distribution before the year is over.

United Aircraft Corp. paid \$1.00 per common share on Jan. 15. During 1947, a total of \$1.25 was paid on the class of stock. Here too, the indications are that increased cash distributions will be made to stockholders this year.

United Aircraft also has a \$100 per preferred stock as which dividends of \$5 per share annually have consistently been paid.

Ryan Aircraft Corp. inactive in the dividend field by virtue of the 10 cent per share distribution it made in March of this year. This same amount represented its total 1947 dividend, including further payments this year.

While the number of aircraft companies taking positive dividend action has for the year is limited, the indications are very encouraging for many others in follow before the year is over.

Factors Good—The recent record of aircraft production awards, as announced by the Air Force and Navy, means most of the units in the industry a high volume of activity well beyond this year. With this activity increased, there no longer exist the same uncertainties and the attendant reasons for withholding cash distributions to stockholders.

It is possible, however, that as certain instances, the representation will be made that waiting capital must be withheld to permit the increased volume of activity engendered by these new orders. While this may be a justifying inference, it will not be a justifying payment.

Moreover, many aircraft companies are very much concerned with determining stockholder relations. One of the most satisfactory means of pleasing this group is a regular flow of dividends, which earnings in permit.

Many of the older industrial companies deliberately pursue a course of making regular quarterly dividends.

Unfortunately, the aircraft industry has had too many peaks and valleys to follow the same pattern in making distributions to stockholders.

In any event, with the current improvement in the fortunes of the aircraft business, it is a natural representation of the industry's stockholders that they will participate in the available earnings. This may continue to be in the form of periodic, regular increased distributions as results are more clearly established.

—Selig Altschul

ONLY RYAN NAVION HAS...



1. INDEPENDENT TWO-CONTROL. Automatic coordination. Patented semi-control system and rubber control permits flying with wheel alone. Ryan has more rubber when you want it. More Ryan is easier, safer, pleasant flying.



2. HIGH-LEFT FLAP. Extra, stored, full-deflection flap gives the Navion slowest, steepest landing of any plane in its class. Still consistent wing gives full elevator control for maximum safety in slow flight and landings.



3. FULL-VISION CABIN. Inter-vision cabin designed for steady traffic. Seven large, clear windows let you see in every direction. No blind spots while flying or taxiing. Two one-way mirrors view ahead... just 12° down after take-off.



4. THICK-SKINNEE BUSHING. The all-metal Navion takes heavy duty components as standard. Strong construction and thick skin ensure safety and low maintenance cost. For permanent beauty, durable enamel finisher coat standard... choice of 4 striking colors.



5. LARGE, STURDY WHEEL. Street-sized ground handling under all conditions. Navion's new one-way, strongly angled landing gear and high speed ground clearance give rough fields, cross-wind landings a cinch. Extra powerful, regulated hydraulic brakes.



6. ROOMY SEAT. Quiet... well-ventilated. Extra wide leg room to space for all passengers. Adjustable floor seats. Airline seats, 42" wide, 34" long, 33" high. Cargo built-up 24" for full cargo convenience and ease. Baggage room up to 110 pounds.



7. FLEXIBILITY OF PERFORMANCE. 150 mph cruising speed. Excellent air ride. No tail wagging, even in rough air. Ryan Navion has the most intelligently chosen and well-engineered combination of features. For thorough booklet, demonstration or free business trip write us as on your business letterhead, today!



The Thoroughly Proven Post-War Plane *Ryan Navion*
Rely on Ryan RYAN AERONAUTICAL COMPANY, 407 LINDSEY FIELD, SAN DIEGO 12, CALIFORNIA

ATTENTION
all DC-4 Operators

***Solar manifold replacements now available through... Douglas**

When you need manifold replacements, order from the Douglas Aircraft Company to get the finest built manifold per manifold! The U.S. Army recently reported all manifolds on their serviceable C-54's with Douglas replacements. There are at least 10 outstanding reasons for this acknowledgment of Solar's superiority.

1. Solar manifold systems were the only ones cleared for use in 1945.
2. Replaces service life and have been demonstrated over some 40,000 operations.
3. The replacement of parts is extremely easy and can be done in the field without the need of special tools.
4. Only 1 person can assemble or disassemble the manifold in 10 minutes.
5. Replaces 5 to 10 old manifold assemblies.
6. Smooth pass for fueling eliminates fuel spray.
7. Disassembly of only 20 minutes for airport maintenance work means no need for extensive work.
8. All manifolds are built to the same design.
9. Complete unit packed in 10 minutes and weighs only 10 lbs.
10. A complete unit can be replaced in 10 minutes.

By special arrangement through the Douglas Aircraft Company, Solar manifolds can be obtained for the U.S. Army, Navy, and Air Force. Write for literature and prices for all and other technical and price information.

*C. A. A. Approved

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AIR TRANSPORT

Air Parcel Post On The Way

Congress passes bill setting up domestic system to start Sept. 1. Certificated lines slated to get all business.

Legislation authorizing a domestic air parcel post system starting Sept. 1 was at the White House last week, awaiting Presidential signature.

Congress completed action on the measure after a suitable show of opposition led by Rep. John Kennedy (D., Mass.), was whipped down in the House. Kennedy said he believes parceled the bill's provisions authorizing government parcel post business to scheduled carriers which already accepted the government's air mail business.

Kennedy urged the proposal advanced by independent air freight operators that parcel post contracts should be awarded by the Post Office Department on a competitive bid basis.

► **Legislation.** Commerce-Chairman Edward R. Roybal (D., Calif.) of the House Post Office and Civil Service Committee, a consistent sympathizer with independent competitors for the scheduled airlines, explained that the bill's prime objective is to place the Post Office Department's air service on a self-supporting basis. By utilizing sched-

uled carriers for parcel post service, Ryan pointed out, the Department will be able to use "an excess of 18,000,000 ton miles" of airplane space now being paid for but not being utilized for mail carriage. (AVIATION WEEK, June 14).

He estimated that will reduce the Department's deficit for air service—now running at approximately \$15,000,000 annually by approximately \$10,000,000 annually.

To remove national opposition, as well as to assure a representative air parcel post operation, the legislation sets high rates. The schedule first of the mail, at least, air parcel post will be competitive with surface parcel post only for business in which the transaction is of major importance.

► **Discretionary Powers.** A significant provision in the bill, however, gives the Postmaster General discretion to adjust rates as he deems desirable.

A postal rate increase bill, which slipped through Congress in its closing hours before adjournment, boosted surface parcel post rates and slightly re-

duced the differential with rates had down for the parcel post.

Following are representative rates for air parcel post and the new rates for surface parcel post as the legislation approved by Congress.

► **First and second zones—75 cents for the first pound, 4 cents for each additional pound.** New surface parcel post rate is 12 cents for the first pound, 11 cents for each additional pound.

► **Third zone—80 cents for the first pound, 5 cents for each additional pound.** New surface rate is 13 cents for the first pound, 5 cents for each additional pound.

► **Fourth zone—75 cents for the first pound, 5 cents for each additional pound.** New surface rate is 17 cents for the first pound, 9.5 cents for each additional pound.

► **Fifth zone—80 cents for the first pound, 6 cents for each additional pound.** New surface rate is 23 cents for the first pound, 11.5 cents for each additional pound.

Airmail Rates Start Up Again

Annual postage rates, which were fixed at their current low level in the fall of 1946, are headed upward again.

Legislation lowering charges from five to six cents on a piece starting next year has been approved by Congress and sent to the White House. The Senate changed the date set by the House, Aug. 1 to Nov. 1, 1948.

► **Mass Resentment.** The House Post Office and Civil Service Committee reported that if the current annual volume is maintained the rate boost will increase postal revenues by \$20,000,000. The Post Office Department estimates that the current volume set at 1,000,000,000 pieces for the 1948 fiscal year will not only be maintained but increased slightly under the current rate to 1,011,000,000 pieces in fiscal 1949 and 1,100,000,000 pieces in fiscal 1950.

With the 5-cent rate continued in effect, the Department estimates air mail volume would amount to 1,210,000,000 pieces in fiscal 1949 and 1,361,000,000 pieces in fiscal 1950.

► **Committee Resolves.** The annual rate was reduced from 4 to 5 cents in 1946, the House Post Office and Civil Service Committee reported, as two provisions that volume would increase 200 percent and the rate mail purchases to carriers would decrease in compensating the boost to 5 cents, the committee said. "Neither of these has come to pass. Volume has increased by only about half of the anticipated figure, while mail air costs are going up as fast as down."



AIRLINE TECHNICAL OFFICIALS MEET

Shown top below opening the 1948 book and membership of the International Air Transport Association at San Agustin, Quez., are left to right: Gen. E. K. McGee, president, Trans-Canada Air Lines; Paul G. Henshaw, TWA's director of operations; J. T. Dwyer, TCA's director of engineering and chairman of the confere-

ence; C. H. Jackson, chief project engineer, British Overseas Airways Corp.; E. Brink Williams, BOAC representative of navigation; Capt. Earl Dumas, vice president operations, Dutch Airlines; K. R. Fiquiera, vice president engineering, Northwest Airlines; Maurice Koppelman, secretary of IATA's technical committee.

CAL Paces Slight Financial Gain

After first-quarter loss, Continental resumes profitable operation and is joined by Capital, possibly NWA.

A few bright spots are appearing in the northeastern airline's generally poor financial prospects for 1946. But the proposed outlook on several crucial points from additional government aid pay insurance rather than a healthy gain in traffic.

Most optimistic report this spring has come from Continental Air Lines, which forecasts the greatest year in its history both from a traffic and revenue standpoint. Since CAL made money in both 1946 and 1947—when most other operators went for the red—the prediction suggested no sharp reversal in the carrier's position.

■ **Larger Earnings**—After a first quarter operating loss of \$50,115, Continental moved into the black with a \$15,000 operating profit in April. President Robert P. Sta forecast larger earnings in May and June and an overall annual quarter operating profit of about \$75,000.

"If the present upward trend continues," Sta declared, "total 1946 earnings by CAL should easily top the previous peak of \$544,000 in the 1944-1945 period." He added that strong operating economies, continued consolidation, and mergers of airport, maintenance, reservations and general

facilities with other carriers made it possible for Continental to operate well within its planned budget during the first quarter.

■ **Stock Sale**—Last month, CAL completed an underwriting agreement with Lehman Brothers, New York investment bankers, whereby 37,500 shares of common stock were placed on the market. They netted total proceeds of \$508,000.

At the same time, the company's line of credit with Chase National Bank was rearranged to permit convenient borrowings of \$1,500,000 and a five-year plan of payoff rather than the three-year liquidation that had been in effect up to that time.

These two steps in financing provided Continental with net working capital of about \$1,500,000 and ready access to a credit line with a \$1,125,000 balance. This will enable the carrier to pay cash for five new Convair-Learners over the next two years at \$305,000 each, compared to the current list price of \$495,000.

All five Convair-Learners are to be delivered by the first week in August. President Sta believes CAL can liquidate with a 54 percent Convair load factor compared to the 54 percent load

factor required for the company's DC-3s. Continental losses in 1945, \$320,000 each for the DC-3s which will be replaced by Convairs.

■ **Capital Airlines in Black**—Meanwhile, Capital Airlines announced it had pulled into the black for the first time in 1946 with a \$95,747 net profit in May. Operating profit was \$116,161. The company had shown a net loss of \$330,131 in April.

While passenger revenue increased from \$1,569,508 in April to \$2,534,700 in May, the total was only slightly above the \$1,571,275 reported for May, 1947, when fares were frozen. Capital's revenue passenger mileage in both April and May of this year was considerably under 1947 levels.

Adjustments in Capital's cash pay forecasts prepared by CAA this month should yield the carrier more than \$500,000 in additional revenue in 1946. Under the real rate schedule in effect at the start of this year, the carrier had anticipated a net loss of more than \$1,000,000 for the 12-month period.

■ **Northwest—Officials** here indicated that the company may be in the black during May. A profit for June was rumored almost at a certainty.

Los Angeles, May 24—CAA has amended the helicopter operator's temporary mail rates to give the company \$1.48 a plane mile between Oct. 1, 1947, (when routes began) and Apr. 30, 1948, and \$1.35 a plane mile on and after May 1, 1948. Former rate was \$1.00 a plane mile. LAA had set \$1.65 cents a plane mile as the rate needed to break even.

■ **West Coast Airlines**—The line carrier has been granted a new temporary rate which increases compensation about \$14,000 in 1947 and \$30,000 in 1948.

Big Month for American

Availability of Convair-Learners and of its other fleet of DC-3s will make June one of the biggest months in history for American Airlines.

About 225,000,000 passenger seat miles are scheduled for the month, compared with 206,000,000 last October, the highest previous figure on record. In June, 1947, American scheduled 175,000,000 seat miles.

Crigo capacity scheduled in all-cargo service this month was slated to reach a new high of 4,200,000 ton miles. AA now has a fleet of 16 four-engineers which will be augmented this summer with additional DC-4s in active three-passenger operation.

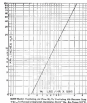
Of the record 225,000,000 seat miles scheduled this month, 340,000,000, or 62.5 percent, are being flown in DC-3s. AA is now as busy flying more transcontinental flights daily.



\$35,000 FARM LOAD TO EUROPE

Periodically loaded, service of the DC-4 in which Southern Air Western Airlines recently started on 11,800 lb, shipment of 30 tons of produce will be \$15,000 in Milan, Italy, for Convair 340s from

Philadelphia and post left both, brokers and pigs. Days and shippers were placed in the tail of the plane. American turned the load "lightest and most down" to turn Atlantic airport heavy



character study

Here's the new Janitrol Series 8-2000 aircraft heater—standard 200,000 Btu/hr. model. Low venting air pressure drop (see chart at left). Light weight; compactness 22 1/2" long, 10 1/2" diameter; easy accessibility (change work plug without removing heater); new construction chamber of special heat resistant corrugated metal; welded gas-tight throughout; dual, standby positive spark ignition—these are some of the many tested features that have already earned acceptance on such planes as the Douglas DC-3 and C-119, and are also long up high reasons for safe, dependable operation, maximum maintenance, and long life. Ideal for other new planes or for converting older military and commercial planes to modern heating efficiency. Why for new military on maintenance savings effected by heating airframes with the 8-2000 on DC-3s, utilizing existing ductwork.

of the latest addition...

One basic heating principle—the Janitrol Working Flame—is built into each of the heaters shown below—each heater designed, engineered, built, and automatically tested to meet the exact requirements of commercial and military aircraft. Here are the members of this "family" by model designation, and some of the aircraft on which they are used (read from left to right): 8-3000 (shown with dual control unit); DC-6, DC-400, 8-400; Convair-Learners; 8-2000 (with single control unit); DC-3, C-75, C-119, 8-100; DC-3, DC-4, C-45, C-54, 8-600; Convair-Learners 600 and 740; 8-500; C-119, C-54, 8-100; 8-400; DC-3, C-45, C-54, DC-400; V-12; P-51, T-61, T-77. Either single or dual control units shown may be used with any of the heaters (described as). Your Service Connection representative and the information behind him is your answer.



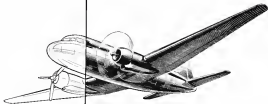
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Scandia

signifies Safety

One of the essential requirements made of a modern traffic aircraft is that it should be so designed and constructed that safety is never endangered. In the Scandia — the new Swedish commercial plane carrying 24-32 passengers — the safety devices overlap and complement one another in such a way as to ensure maximum safety. The world-renowned air line SAS-ABSA — Swedish Air Lines — has adopted the Scandia. ABSA's motto is "Safety first".

One of the numerous safety factors. The Scandia possesses superior flying qualities and flies easily without re-entraining even with one engine inoperative.

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John P. McGee (left), executive director of the Port of New York Authority, watches as Henry J. Lawrence (right), general manager of the North American division of Air France, signs the first airline agreement for use of New York International Airport. Standing left to right: William M. Sullivan,

chief of scheduled air transport bureau of the Port Authority; Jean Proust, assistant to the general manager, Air France; Sidney Goldstein, assistant general manager, and James C. Buckley, director of airport development for the Port of New York Authority, operator of the airport.

Three Lines Sign to Use Idlewild

Handful of foreign carriers will rattle around in big field as most others reject Port Authority's terms.

What once was 9500 acres of marshy tideland and now is an airport nine times larger than Idlewild Field may appear less when it opens for business next Thursday.

Only three buildings are on New York International Airport (Idlewild), and only three foreign flag carriers have signed agreements for space: Air France, Swiss Air and Scandinavian Airlines. And none is scheduled to start operations until next July.

Lord says it is probable that those three would be the sole tenants for some time to come.

The other airlines—both domestic and foreign—must show that the Port of New York Authority should share by mutual consent in 1949.

The Port Authority declares those losses of "outsiders" and that the airlines agreed to sign new ones and new ones tucked out.

■ **Route to Rome.**—A letter to the Port Authority, dated June 10, 1948, in which the representatives of the airline will have significance spreading far beyond the New York area.

■ **The Port Authority, sponsor** and is a member of the Airport Operation Council, a high level organization which reports as a subsidiary air report board in at least 1 percent of all scheduled air traffic in the U. S. Any effort on the part of these airports to issue rules

must depend on high payment on the results of the Idlewild dispute.

■ **Should the airlines decide** to the Port Authority service charges, they will have to try to reduce expenses by shifting some traffic from the New York City area to nearby cities where airport charges are lower.

■ **The airlines have** seriously discussed that only the City of New York has the right to use the Port Authority to make it possible according to contract. There is already a demand that the Port Authority be made a part of the New York and New York, state government. Since the Port Authority has been the model for other quibbles without consulting with the port throughout the country, this may lead to similar legislation elsewhere.

■ **Continued Open**—first open development in the controversy between the airlines and the Port of New York Authority, operator of Idlewild.

■ **Local airport**—a letter to the Port of New York City Mayor William O'Dwyer had asked the City to use the Port of New York Authority, is coupled to it as up to the terms of the original Idlewild lease.

Carriers signing the letter to the airline were: American, AOA, BOAC, Capital, Eastern, National, Northwest, Pan American, SAS, TWA and United.

■ **O'Dwyer's answer** and it was the

agency of John P. McGee, congressional counsel, that the city could not occupy the Authority to abide by the terms of the 1945 Idlewild lease. He added that when the city enjoyed its agreement with the Port Authority as Idlewild, the various airlines refused the city from all obligations.

■ **Airlines Organized**—New York, formerly headed together as the "New York Airline Committee," the 11 airlines directly involved claim no basis exists for the Authority's attempt to board current leases at Idlewild as "outsiders" or "non-Leslie." The airlines are willing to carry out the commitments which they have undertaken in these agreements. The Authority has no equal obligation to carry out its commitments.

A spokesman for the Airlines Committee stated that the airlines do not approve of the Port Authority's proposed terms and charges (Airlines Week, June 7) since they can be changed at any time at the discretion of the Authority.

He also claimed that the airlines "never agreed to re-negotiate in each word."

■ **Foreign**—Balk-Balkanair, foreign flag airlines which have been told by the Port Authority to discontinue operations at Idlewild and move to Idlewild by July 1, are leaving.

Two carriers, KLM (Dutch) and SAS (representing Denmark, Norway and Sweden) have already filed protests with their embassies in Washington to prevent these moves to the Department of State.

■ **Arbitration**—At the time it does not appear likely that either side will yield. A third party to arbitrate, not connected with either the airlines or the Port Authority, may be the only answer in the uncertainties before.

Meanwhile New York International Airport set up to handle 1000 flights a day, can count on only 25 flights a day—most of them, and until now, for the 3100-6000 passengers to build the "world's largest airport," may be a long time returning.

Willis at Idlewild

Willis Air Service, Inc., has leased the remaining space available in Hangar No. 1 at New York International Airport. The north half of Hangar No. 1 has been leased to Sales Aircraft Service, Inc., for aircraft maintenance and repair.

Willis will engage only to maintain major and minor parts of the role of basic maintenance and aircraft parts and accessories at New York International.

In addition to an aircraft maintenance base at Teterboro, N. J., Willis operates cargo flights.

Peru Fields

Brasiff's permit to land at Lima is restored under U. S. pressure.

After from Congress and the State Department has allowed the Peruvian government's legal attitude toward granting Brasiff Airways landing rights at Lima.

Shortly before Brasiff's permit to South American service on Line 4, Peru suspended the carrier's permit. As

a result, the U. S. carrier's new operations centered from Houston to Miami, Miami to Caracas, for two weeks.

► **First Reconsideration**—But the suspension has been withdrawn at least temporarily, and on June 13 Brasiff started operating its DC-6 and DC-4 flights through to Lima. Meanwhile, the State Department opened negotiations with Peru to put Brasiff's landing rights on a firm basis.

Peru's decision followed a storage of permits by the State of the Peruvian government's decision against the South American nation's refusal to per-

mit the Brasiff operation, which was provided for in a 1946 bilateral air transport agreement. Under the pact, Peruvian International Airways was given authority to serve Washington and New York.

► **Lima Reconsideration**—For Tom Connolly (D., Tex.), former chairman of the Senate Foreign Relations Committee, and Secretary of State George Marshall to reopen the negotiations with Peru. Other members of the delegation from Lima—Brasiff's home state—were convinced that when, as suggested, Peru acts as Export-Import Bank loan it be withheld until the country gives Brasiff full operating rights into Lima.

Peru American Airways and Transperu early last spring made unsuccessful bid deals against to Congress and CAB to block Brasiff's Latin American service. Despite these setbacks, both FAA and Transperu reportedly are still making their opposition to Brasiff's new operations.

► **FIA Situation**—On the surface, the Peruvian government's move against Brasiff was actually in the interest of Peruvian International Airways, its only flag carrier. Peru loses FIA way lose considerable traffic on its Havana-Prague-Lima segment through Brasiff's occupation.



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CONVAIR-LINER



Close-up of one of the Barber-Colman units in the Convair-Liner's ceiling air control valve assembly.

One of the outstanding features of the new Convair-Liner-360 with 48-passenger maximum range is automatic climate control for service on major domestic and foreign airlines. In the passenger air-conditioned cabin, the system "knows" mean comfort" regardless of outside temperature. Comfort from Vultee air-

processors, as a result of an entire research, have developed what is considered to be one of the most modern artificial air conditioning systems. Refrigerant oil, heated air, or a suitable mixture is supplied to ducts in the cabin. The air flows through the selected condition to profile where the hot coils and returns under the seats, thus providing excellent resistance and adequate fresh air to replace what the advantages of cabin heating from the walls.

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Youth Hostel Group Takes to the Air

Transcon Air Lines will carry 700 American youth to Europe this summer in the largest youth air travel program ever undertaken.

First flight, to Geneva, Switzerland, left June 20 from Bradley field, near Hartford, Conn.

► **Sponsors**—The travel program is sponsored by Youth Across, Inc., of Newfield, Mass., a non-profit organization. It is a member of the International Youth Hostel Federation, which conducts activities in 24 countries throughout the world.

Each flight will carry approximately 40 passengers. Flights will be on a three-week basis from June 20 until July. The travel will return approximately 60 days later. Aspects of call are: Shannon, Ireland; Bologna, England; Brussels, Belgium; Paris, France; Geneva, Switzerland; and Oslo, Norway.

► **Benefits**—Transcon's DC-10 will also carry the light aluminum biplanes for youth who will travel through Europe.

The air travel program was arranged with Transcon when 6000 applications were received for youth hostel travel this summer, with only 1000 accommodations available aboard Transcon.

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The mission of the United States Air Force is to defend this country against foreign attack. **THREE** major operational commands synchronize to further this mission: **1** The Air Defense Command... to protect continental United States against an attack. **2** The Strategic Air Command... assigned to

intensive, sustained long-range bombardment and fighter operations, alone or in cooperation with land and naval forces. **3** The Tactical Air Command... for attacking enemy warships, wounding hostile troop-lines of communications, and destroying supply concentrations. **4** Republic's P-47 Thunderbolt is designed for duty with all THREE commands. The fundamental versatility, ruggedness and striking power of its predecessor, the mighty P-51 Thunderbolt, is inherent in today's 600 MPH THUNDERBOLT. **5** Through the closest cooperation between the Air Materiel Command and Republic Aviation Corporation... a rapidly increasing number of P-47's are daily going into active service at American Air Bases... To guard the security of our nation...

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CONTACT — Because the leading materials used on Deltabeston wires pack plenty of heat resistance into small space, wires that easily come in the most cramped quarters.

FLEXIBLE — Flexible, multi-strand Deltabeston wires can be bent easily to fit in wherever they're needed for extra heat protection.

TUGGABLE — Special resin, better adhesion, and high tensile make Deltabeston wires more strongly resistant to vibration and other adverse conditions during the lifetime and while in service.

Deltabeston aircraft wires — in sizes 22 to 24 — are ready to go on work on your heat problems now. Specify them wherever there's a threat. For further information, write to Section 11140, General Electric Company, Rochester 5, Connecticut.

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Built to Beat the Heat

GENERAL ELECTRIC

Helicopter Laboratory—A Success Story

While not all places that can fix the rotor capture the author's headlines, out in Los Angeles the hard-working helicopter is quickly taking its place as an accepted public servant. It attracts hardly more attention than a street car and as much less trouble to the citizens.

For a year or so the helicopter's future was carried by publicity as fundamental as it was premature. Then John Public discovered it was not soon to be paying living answer to the Ford in his garage, and it dropped out of the press and magazines.

Ever since, the helicopter's very realistic commercial viability has been underlined. Its military advantages are still mainly unrecognized by the two air services. The ground Army is leaving much more rapidly.

Both military and commercial operations stand to benefit handsomely from Los Angeles Airways, the world's first scheduled helicopter mail service, which is completing the sixth month of flying in a system of 516 airmail miles, can reach over 30 miles to the metropolitan airport and the terminal post office.

Convenient at this time with mail only, LAA has no need for earth-shaking sales success or facilities for passenger comfort. Uncle Sam gets value received for his dollar and that there are no debatable hidden costs. LAA is a compact organization of 30 local stockholders and 29 personnel, including 8 pilots, 12 mechanics, "and one vice president who does nothing and answers to pay."

LAA's President Clarence Belton feels, quite justifiably, that his enthusiastic, practicing group is producing very efficient data on the reliability, utility and dependability of the helicopter. The prospect of economic self-sufficiency seems much improved since this time last year.

Public acceptance? Belton has not received a single complaint about noise, yet has five craft are concentrating both day and three times a day over densely populated areas at never more than 1,000 feet altitude.

Costly mischief brought months ago still be in a classroom, remedied. The copter are teaching a lesson that is becoming controversial to the airlines and the urban services. Several Los Angeles citizens have called up the sheriff's office to protest about noisy planes and ask him if it is that those or small helicopters can be so quiet when planes are up?

LAA has received only two minor complaints from the public—about first.

Dependable operation? Comparing 200 landings a day, a few minutes early, Los Angeles Airways has had only one mechanical delay. It has had one forced landing—due to weather. Minor mechanical problems requiring post-flight repairs have been the prime headache. These must be expected in any machine so revolutionary and complex, however.

Fortunately, CAA has cooperated with LAA and Belton joins the agency's recognition of the experimental nature and special problems of helicopter operation. While Belton makes clear he does not always agree with CAA's South Region office he concedes its staff has been tolerant in applying regulations for fixed-wing aircraft, and now CAA demands have been "fair and strict."

It is also due to give similar credit to the Helicopter Council of the Aircraft Industries Association for many times convening conferences with CAA and uniform and sane recommendations in the interest of public safety but guarding against a stifling overregulation.

"We are a natural helicopter laboratory, already a going concern," LAA's president says. "Economic self-sufficiency largely will depend on speeds of advanced helicopter research, especially in improving payload and design of aircrafts and constant ground reference instruments with which the pilot can maintain low flight under vision zero weather."

"In a step in this direction, we already have one copter equipped for night flight, and CAA approved. Also, with metal blades of higher load and expansion of baggage compartment area, no expect to increase payload of the Sikorski 8-51 from 750-lb. current to 3,000-lb. by spring."

Call the helicopter too useful for dependability if you exist, but look at the record. The LAA organization has met and exceeded all performance data and conditions.

"What we said we would do, we did, to the day and later—or much later," Belton says. Service started Oct. 1 is planned. Route B, scheduled to open March 1, was started Oct. 15 instead. Route C opened Jan. 10, although not permitted the Post Office Dept. until June 1. On Mar. 1—a five months ahead of time—a third daily flight was added to segments A and B, and in the airport post office shuttle. This month LAA is starting third flights on segment C, originally set for Jan. 10, 1949.

Belton is confident that when adequate instruments become available for "blind" flight, LAA can maintain 99 percent performance year in and out. Mail loads have been increasing so rapidly that LAA has not even begun to estimate preweight and capacity potentials on such routes, all over congested street and highway traffic.

Experience now exceeds 2,000 helicopter hours. This far exceeds all other commercial operations. Belton believes, and now well exceed even the flight time piled up in test operations at the Sikorski factory.

After less than a year's test, Los Angeles Airways' 30 men are proving that the helicopter justifies the faith that Post Office, CAA and CAA have placed in it. Unshakably, its potential in commerce and military aviation is still largely unappreciated.

—ROBERT H. WOOD

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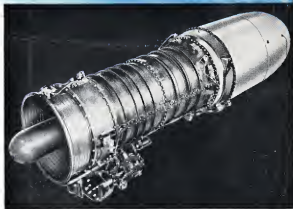
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